A DESCRIPTIVE STUDY TO ASSESS THE PREVALENCE OF CERVICAL CANCER AMONG WOMEN IN SELECTED VILLAGE OF KANYAKUMARI DISTRICT

A DISSERTATION SUBMITTED TO THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY CHENNAI, IN PARTIAL FULFILMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2017

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Internal Examiner **External Examiner**

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APPROVED BY DISSERTATION COMMITTEE ON 16.08.2016

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OCTOBER 2017

BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled **"A Descriptive study to assess the prevalence of cervical cancer among women in selected village of Kanyakumari District",** is a bonafide research work done by M. Prasana, II year MSc(N) , Sree Mookambika College of Nursing, Kulasekharam under the guidance of Prof. **Mrs. Shanthi Letha MSc(N), M.A, Ph.D(N),** Obstetric and Gynecology Nursing in partial fulfilment of the Master of Science in Nursing under Tamil Nadu Dr. M.G.R. Medical university.

Place : Kulasekharam
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CERTIFICATE

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DECLARATION

I hereby declare the present dissertation titled **"A descriptive study to assess the prevalence of cervical cancer among women in selected village of Kanyakumari District",** the out come of the original research undertaken and carried out by **M. Prasanna MSc., (N)** II year under the guidance of **Prof. Mrs. Shanthilatha MSc(N), M.A., Ph.D(N),** Obstetric and Gynecology Nursing, Sree Mookambika college of Nursing, Kulasekharam. I also declare that the material of this has not formed in anyway the basis for the award of any degree or diploma in this university or any universities.

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Date:

Mrs. M. Prasanna,

II year MSc (N)

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INVESTIGATOR

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ABSTRACT

Introduction

Cervical cancer is one of the most common cancers worldwide. In India, it is one of the leading causes of mortality among women accounting for 23.3% of all cancer deaths. More than three- fourth of these patients are diagnosed in advanced stages leading to poor prospects of long term survival and cure. Cervical cancer is a taboo issue in many countries. It is possible to detect the cervical cancer in early stages if women undergo screening thereby reducing mortality and morbidity. The prospective screening method that can be used in low resource settings are the visual inspection method "see and treat" approach.

Objectives:

- To assess the prevalence of cervical cancer among women 30-50 years.
- To find out the association between prevalence of cervical cancer among women with their selected demographic, menstrual, obstetric and gynaecological variables.
- To assess the risk factors of cervical cancer among the respondents.

Hypothesis:

There will be a significant association between prevalence of cancer among women with their selected demographic, menstrual, obstetrical and gynaecological variables.

Methodology

The researcher adopted the quantitative descriptive survey approach with descriptive research design. The study was done with 100 women (30-50 years) in selected village of Kuttiyar in Kanyakumari District. The subjects were selected by non-probability convenient sampling technique and data were collected from 100 samples. Formal permission for data collection was obtained from medical officer of PHC Pecheiparai. According to inclusion and exclusion criteria, screening was done with VIA/VILI test. The collected data were analysed based on descriptive and

inferential statistics according to the above mentioned objectives. The modified "Anderson Healthcare Utilization Model" was adopted for assessing the prevalence of cervical cancer. The data collection tool consist of demographic, menstrual, obstetric and gynaecological data.

Findings of the study

The study identified that with total 100 samples, 4% of samples were positive result and 96% samples were negative result for cervical cancer; by using VIA/VILI method. It was found that there were significant association found between prevalence of cervical cancer with their selected demographic, menstrual, obstetric and gynaecological variables. The study also concluded that most of the respondents were in risk factors.

Outcome of the study:

In the present study, Out of 100 samples 4 women were detected with cervical cancer. The investigator provide awareness regarding the treatment modalities and follow up care. The patient were referred to Pechipparai Primary Health Centre for further assessment and treatment.

Conclusion:

The findings of the present study reveals that VIA/VILI is an accurate and effective method for evaluating of cervical cancer. It is the easiest method, need less equipment and less training. VIA/VILI can be taught to nurses health workers and paramedical staff. Requires a training of 5-14 days only. So it can be used effectively in hospital as well as in community setup. VIA/VILI were the acceptable test in low resource settings be implemented as a large scale screening method.

CHAPTER : I

INTRODUCTION

"We will go the distance to protect our relationships from Cervical Cancer."

- **Annie Bennet**

The uterus or womb is a major female hormone-responsive reproductive sex organ of humans and most other mammals. In the human the lower end of the uterus is the cervix which opens into the vagina while the other end, the fundus is connected to the fallopian tubes. It is within the uterus that the fetus develops during gestation. In the embroyo the uterus develops from the paramesonephric ducts which face into the single organ known as a simplex uterus.

The uterine cervix is the lower portion of the uterus, which is connected to the vaginal canal. The cervix carries out may functions, which aid to the overall reproductive health and wellbeing of women. In the Gynaecological practice it is known that the uterine cervix can host a spectrum of lesions. These lesions may be neoplastic or non-neoplastic in nature. Lesions of the cervix are a major cause of morbidity in all age group.

Cervix from biopsy and hysterectomy specimens constitute majority of the Gynaecological specimens received in the department of Pathology. While inflammatory conditions like chronic cervicitis, microglandularadenosis etc. from majority of lesions in the reproductive age group, they resolve with proper treatment. Poverty, illiteracy, low socioeconomic status and inadequate sanitation and hygienic practices are implied in the cause of increased inflammatory pathology.

However primary malignant disease of the cervix is also common and unless picked up at an earlier stage is a major cause of mortality among women, especially those pertaining to the lowest socioeconomic group who present at later stages of this disease. The exact incidence of various cervical lesions is not available in part of India where on active Pap screening is not in place. The cervix with its various pathologies can sometimes appear exuberant and be misdiagnosed as malignant. Hence a detailed histological and morphological study of the spectrum of lesions of the cervix should be considered.

There is never an age or a time when the uterus is not vital to a woman's health and wellbeing. The womb of a woman is the seat of her feminine nature and her emotions. The common disorders of uterus may include abnormal uterine bleeding (amenorrhea, dysmenorrhea), Noncancerous growths in the uterus called fibroids, endometriosis, uterine prolapse, Endometritis, Polycystic ovarian syndrome, pelvic inflammatory disease, polyps, Hematometra, Nobothian cyst and also malignancy.

Dr.KirtiBushan (2016) suggest that the worldwide incidence of cervical cancer is approximately 5,10,000 new cases annually with approximately 2,88,000 deaths. Unlike many other cancers, cervical cancer occurs early and strikes at the productive period of a woman's life. The incidence rises in 30-34 years of age and peaks at 55-65 years with a median age of 38 years (age 21-67 years)

Cervical cancer is ranked as the most frequent cancer in women in India. India has a population of approximately 365.71million. the current estimates indicate approximately 132,000 new cases diagnosed and 74,000 deaths annually in India, accounting to nearly 1/3rd of the global cervical cancer deaths. Indian woman face a

2.5% cumulative lifetime risk and 1.4% accumulative death risk from cervical cancer.**Karthigeyan (2016).**

Asthana (2014) reported that **i**n Tamilnadu cervical cancer is the second most common cancer to affect women especially there in rural areas, 80% of woman in the low socioeconomic strata are at risk owing to the lack of awareness regarding the disease and the service available to combat the disease.

In Kanyakumari, the cancer prevalence rate was 148.3 per 1,00,000 populations. Estimated number of death from cervical cancer in 2015 is 250 females. The peak age of incidence of cervical cancer is (39-49) years and a considerable proportion of woman report in the late stage of disease.**Zmedhealth (2015)**

A community based cross sectional study was conducted and found out that rural woman are more detected than urban. The incidence of cervical cancer is more in remote villages of Tamilnadu where 58% of females in rural areas are illiterate, health infrastructure is mediocre and cervical cytology is unknown.

Cervical screening is the process of detecting and removing abnormal tissue or cells in the cervix before cervical cancer develops. By aiming to detect and treat cervical neoplasia, early on cervical screening aims at secondary prevention. Screening methods for cervical cancer are the Pap test, liquid based cytology, the HPV DNA testing and visual inspection method (VIA-VILI Method). Pap test and liquid based cytology have been effective in diminishing incidence and mortality rates in developed countries. Prospective screening methods that can be used in low resource area in the developing countries are the visual inspection method (VIA-VILI).

A recent task force constituted by the government of India has recommended the introduction of visual Inspection [VIA-VILI] method based screening in primary health centres in about 50 districts where the VIA/VILI – woman will be referred, investigated and treated. Note: VIA : Visual Inspection with Acetic Acid and VILI: Visual Inspection with Lugol's Iodine.

Visual inspection of the cervix, using acetic acid (White vinegar: VIA) or Lugol's iodine (VILI) to highlight precancerous lesions so they can be viewed with the "naked eye", shifts the identification of precancer from the procedures eliminate the need for laboratories and transport of specimens, require very little equipment and provide woman with immediate test results.

A range of medical professionals' doctors, nurses or professional midwives can effectively perform the procedures provided they receive adequate training and supervision. As a screening test, VIA, VILI may perform as well as or better than cervical cytology in accurately identifying pre-cancer or cancer lesions.This has been demonstrated in various studies where trained physicians and mid-level providers correctly identified between 45% and 79% of woman at high risk of developing cervical cancer. By comparison, the sensitivity of cytology has been shown to be between 47% and 62%, limitations of VIA/VILI is that accuracy of an individual's interpretation. This means that initial training and on-going quality control are of paramount importance.

VIA/VILI can offer significant advantages over pap in low resource setting, particularly in terms of increased screening coverage, improved follow up care and overall program quality. Due to the need for fewer specialized personnel and less infrastructure, training and equipment, with higher coverage. Furthermore provides

can store the results immediately and help in follow up care.Screening programmes have claimed to reduce incidence and mortality of cervical carcinoma significantly.

NEED FOR THE STUDY:-

Cervical cancer is a taboo issue in many places as it is due to risk factors like Human papiloma virus (HPV), many sexual partner, become sexually active early, smoking, weakened immune system, giving birth at a very young age , several pregnancies, use of contraceptive pills, other sexually transmitted diseases (STD) chlamydia, gonorrhoea and also genetic alterations.

In recent years, there has been an alarming increase aware that use of improper sanitary napkins is the major reason for cervical cancer. Also second handSmoking, obesity , eat improper time , less drinking water and exposure to ultraviolet rays, dust and other harms leads to more risk of cervical cancer.

Diet which are included in day to day life like chips, soft drink, cookies, pizza, sugar, cakes, butter or margarine, doughnuts, popside, oils, syrups and jams can cause cancer.

Pap test and liquid based cytology have been effective in diminishing incidence and mortality rates of cervical cancer in developed countries; but not in developing countries. In low resource setting HPV DNA testing and visual inspection method.

Conventional cytology, the physician collecting the cell, smears them on a microscope slide and applies a fixative. In general, the slide is sent to the laboratory for evaluation. Studies of the accuracy of conventional cytology report was sensitivity 72% and specificity 94%.

Liquid based monolayer cytology technique based on placing the sample into a vial containing a liquid medium that preserves the cells. The media are primarily ethanol and methanol. Once placed into the vial, the sample is processed at the laboratory into a cell thin-layer, stained and examined by light microscope. Sensitivity (60% - 61%) and specificity (82% - 91%).

Human papillomavirus (HPV) is a cause of cervical cancer. Most women will successfully clear HPV infections within 18 months. Those that have a prolonged infection with a high-risk type (16,18,31 and 45) are more likely to develop cervical Intraepithelial Neoplasia, due to the effects that HPV has no DNA. Accuracy of HPV testing report sensitivity 88% - 99% and specificity 73% - 79%.

Many studies now proved the evidence of the feasibility and cost effectiveness of screening and treatment approaches by visual inspection method (VIA/VILI test) visual inspection of the cervix, using acetic acid (which Vinegar : VIA) or Lugol's Iodine (VILI) to high light precancerous lesions. Sensitivity is between 47% - 62%.The study highlights the success of visual screening tools in early detection and mortality reduction of cervical cancer in resource-poor setting.

The non-availability of transport facility, lack of awareness of the women regarding cancer screening programme and the statistical evidence of more incidence of cervical cancer in remote villages as the risk factors are expectable makes the investigator to select the village for the present study.

STATEMENT OF THE PROBLEM:

'A descriptive study to assess the prevalence of cervical cancer among women in selected village of Kanyakumari District.'

OBJECTIVES:

- To assess the prevalence of cervical cancer among women 30-50 years.
- To find out the association between prevalence of cervical cancer among women with their selected demographic, menstrual, obstetric and gynaecological variables.
- To assess the risk factors of cervical cancer among the respondents.

HYPOTHESIS:

There will be a significant association between prevalence of cancer among women with their selected demographic, menstrual, obstetrical and gynaecological variables.

OPERATIONAL DEFINITIONS:

Prevalence:

In this study prevalence refers to a total number of cases affected by cervical cancer among women at age 30-50 years at a particular period of time as measured by VIA/VILI method.

Cervical Cancer:

In this study cervical cancer is defined as a type of cancer that occurs in the cells of the cervix the lower part of uterus that connects to the vagina. Acetowhite with VIA (Visual Inspection with Acetic acid) and saffron yellow with VILI (Visual Inspection with Lugol'sIodine)

Women

In this study women is defined as the adult female human being who come under the age group of 30-50 years.

Variables:

A variable is as anything that has a quantity or quality that varies. The dependent variable is the variable the researcher is interested in (Devin Kowalczyk 2015)

Dependent Variable:

For the present study "Cancer Screening among women (30-50 years) by visual inspection method.

Assumption:

- Cancer prevalence is more in present days.
- In female population cervical cancer is more than other type of cancer.
- Early detection of cancer will prevent mortality rate
- VIA/VILI method is effective confirmatory method of cervical cancer.
- The cervical cancer is detected by visual inspection method appears to be safe, feasible and effective.
- VIA/VILI method is less cost and has no side effects.

Delimitations:

Then study is limited to

- Women age group between 30-50 years
- Kuttiyar tribal villages only

Ethical Clearance:

Ethical approach was obtained from research ethics committee of the faculty of nursing, SreeMookambika College of Nursing. An official approval letter to carry out the study was obtained from medical officer of PHC Pechiparai.Oral informed consent were obtained from the participants included in the study sample. The participants were reassured about the confidentiality and privacy of the obtained information. The participants were also informed about their rights to refuse participation or withdraw at any time.

Conceptual Framework:

The Andersen Healthcare Utilization model is a conceptual model aimed at demonstrating the factors that lead to the use of health services (including opportunity for prevention and treatment) is determined by three dynamics; predisposing factors, enabling factors and outcome. Predisposing factors can be characteristics such as race, age and health beliefs. Enabling factors could be family support, access to health insurance, one's community etc., and adoption of health outcomes as the endpoint of interest.

In the present study the **predisposing factor** includes socio demographic data(age, education, occupation, residence, age at marriage, duration of marriage,

husband's social habits, family monthly income, previous knowledge of VIA/VILI, Menstrual data(age at menarche, patterns of menstrual cycle, duration of menstrual flow, period of menstrual cycle, presence of menorrhagia, dysmenorrhea, metrorrhagia), Obstetric and Gynaecological data (parity, mode of delivery, place of delivery, number of abortion, type of contraception, presence of vaginal discharge, colour of discharge, dyspareunia, post coital bleeding and pruritus vulvae.)

Enabling factors consists of awareness of cervical cancer, awareness of cervical cancer screening, detect cervical cancer by VIA/VILI method, embracement, not feeling at risk, social support, tradition/customs, accessibility and time availability. The **outcome** is update of cervical cancer screening reduce cervical cancer rate.

CONCEPTUAL FRAMEWORK:

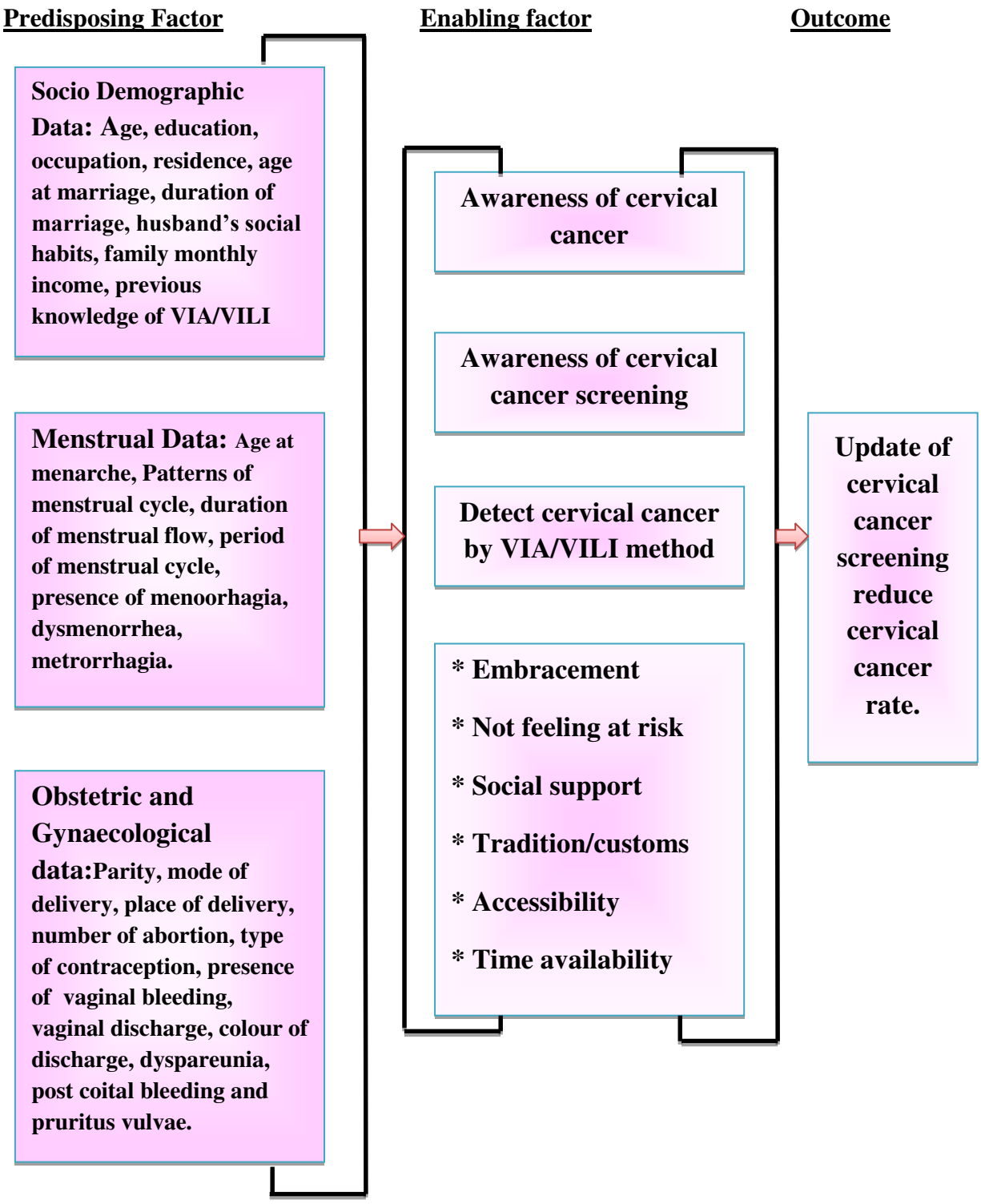


Figure 1:Modified 'Anderson Healthcare Utilization Model' (1968)

CHAPTER : II

LITERATURE REVIEW

A review of related literature is an essential aspect of scientific research. It involves the systemic identification, location, scrutinizing and summary of written materials that contain information on research problem. It broadens the understanding and gives conceptual context into which the problem fits. (Polit and Hungler, 2000).

The literature review was presented under the following headings:

- Literature related to cervical cancer
- Studies related to different methods of screening to detect cervical cancer.
- Studies related to VIA and VILI methods of Cervical Cancer.
- Studies related to prevalence of cervical cancer.

Literature Related to Cervical Cancer

RalalKonar (2000): Reported that the incidence of cervical cancer is steadily declining in the developed world. It is entirely preventable disease as the different screening, diagnostic and therapeutic procedures are effective. Developing countries the screening facilities are inadequate. In India carcinoma of the breast and cervix are the leading sites of malignancies in female and are major public health problem.

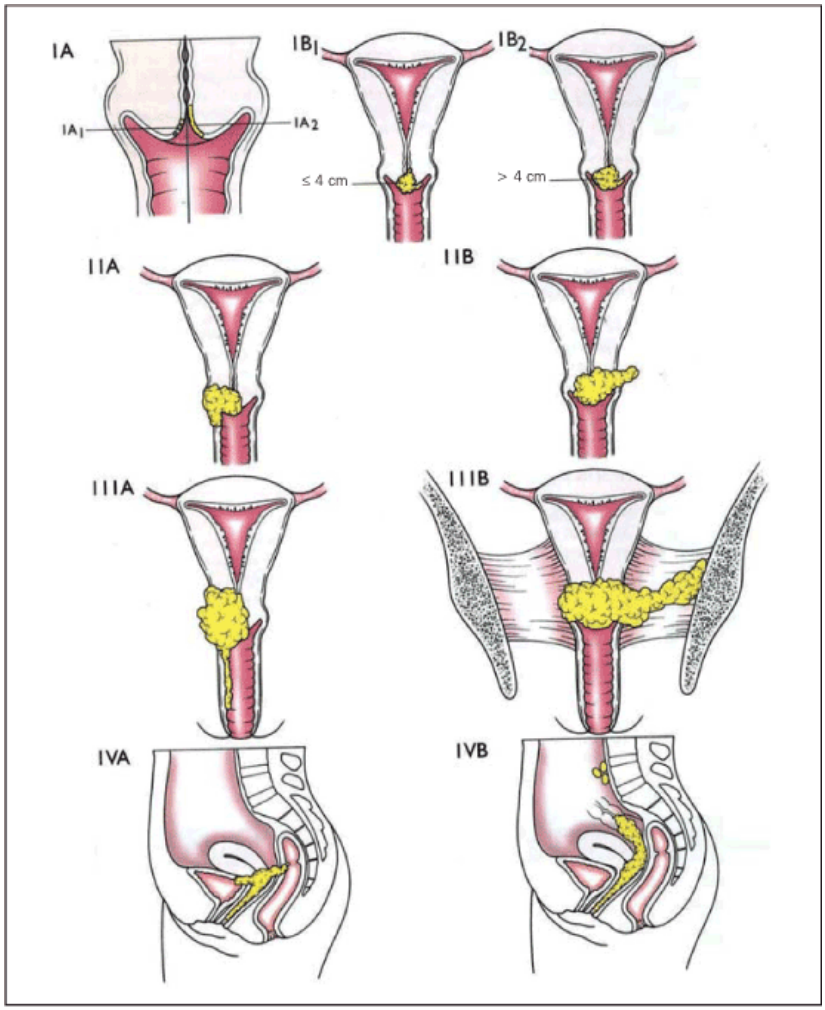
Gauravi Mishra (2008): Suggested that precancerous changes of the cervix usually do not cause pain or any other symptoms and are not detected unless a woman undergoes screening. Symptoms generally do not appear until abnormal cervical cells become cancerous and invade nearby tissue. The most common symptoms are

copious foul-smelling vaginal discharge, abnormal bleeding or inter menstrual bleeding, post coital bleeding, postmenopausal bleeding or backache.

SulochanaGunasheela (2012): Described that the high risk factors of cervical cancer are history of early marriage, coitus, multiple sexual partners, prolonged use of oral contraceptive pill, cigarette smoking, history of sexually transmitted disease, low socioeconomic status with poor personal hygiene. These women require periodic screening in order to prevent or detect early disease.

Sadhara Gupta (2014): Explained the FIGO staging of cervical cancer. Staging is based on clinical examination, preferably done under anaesthesia; it includes bimanual pelvic examination, cystoscopy and proctoscopy FIGO 2009 staging system as follows.

FIGO STAGING OF CERVICAL CANCER (2009)	
STAGES	**FEATURES**
0	Carcinoma in situ
1	Carcinoma strictly confined to cervix
1a	Invasion 5mm – 7mm
$1a_1$	Invasion not greater than 3mm
$1a_2$	Invasion greater than 3mm
1b	Clinical lesion not greater than 4mm
$1b_1$	Clinical lesion is greater than 4mm
2	Carcinoma extends beyond cervix
2a	No obvious parametrical involvement
2b	Obvious parametrical involvement
3	Extended up to pelvic wall
3a	Involvement of lower third of vagina
3b	Extension to pelvic wall, tumour
4	Extend beyond true pelvis
4a	Growth to adjacent pelvic organs
4b	Spread to distant organs



FIGO STAGING OF CERVICAL CANCER - 2009

Asian Journal (2016): Reported that a retrospective analysis over a period of 5 years was done, studying all cervical biopsies that were received in the department of pathology Chennai, SRMC. A total of 882 cases of cervical lesions over this period studied. These were 107 cases (12.13%) of malignancies, 62 cases (7.03%) were premalignant, 233 cases of benign endocervical polyp (26.42%) and inflammatory pathology for 480 cases (54.42%) malignant lesions were seen in the age group of 20-80 years, and majority of non-neoplastic lesions were seen in women of the reproductive age group.

Debra Rose Wilson (2017): Cervical cancer screening are PAP test (when the doctor gently scrapes the outside of the cervix and vagina taking samples of the cells for testing), Pelvic examination (feels a woman's uterus, vagina, ovaries, fallopian tubes, cervix, bladder and rectum to check for any unusual changes), HPV testing (test is done on a sample of cells from the patient's cervix certain strains of HPV, such as HPV-16 and HPV-18 are seen more often in women with cervical cancer), Colposcopy (A special instrument colposcopy gives a lighted, magnified view of the tissues of the vagina and cervix), Biopsy (is the removal of a small amount of tissue for examination under a microscope) in addition X-ray, CT scan, MRI, PET-CT scan, Cystoscopy, Protoscopy and Laparoscopy allows to conform the diagnosis

Studies Related to Different Methods of Screening to Detect Cervical Cancer

Myriam Leyva, Theresa Byrd and Patrick Tarwater (2006)reported a study towards attitudes of cervical cancer screening using descriptive design, among women over the age of 18 years totally 150 females, the result reported that overall 84.7% had ever had a Pap test and 68.7% reported having some kind of health care coverage, the majority (69.3%) were currently married and almost half (48.3%) of the participants had a monthly income of less than 2000 pesos, only 14% reported having completed high school. Approximately 75% of the sample had ever been given information on the Pap test from their healthcare provider.

AswathyMariya, Amin Quereshi, beteenakurian and Leelamoni.k (2012) conducted a study of current knowledge and practice on cervical cancer screening among women in rural population of kerala, 200 women's were interviewed by semi structured questionnaire. The result showed that mean age of the study population was 34.5 ± 9.23 years. Three fourths of the population (74.2%) knew that cervical cancer

could be detected early by a screening test, majority of the respondents (89.2%) did not know any risk factor for cervical cancer of the 809 women studied, only 6.9% had undergone screening. One third of the population not screened due to various factors, knowledge (51.4%), and resource (15.1%) psychological (10.2%). Independent predictors for doing Pap test included age > 35, having knowledge of screening for cervical cancer.

LesleaPeirson, Donna Fitzpatrick-lewis, Donna ciliska and Rachel warren (2013) conducted a study to find the effectiveness of screening of cervical cancer by meta-analysis design included women aged 15 to 70 years, the size of the citations 15145 using controlled trials and observational studies with comparison groups, the samples are screened using conventional cytology, liquid based cytology or human papillomavirus DNA test. The result showed even a single lifetime screening test significantly decreased the risk of mortality from and incidence of advanced cervical cancer compared to no screening (mortality risk ratio 0.65%, 95% confidence interval 0.47, 0.90; incidence relative risk 0.56% 95% confidence interval 0.42%, 0.75%). Cytology screening shown that found testing significantly reduced the risk of being diagnosed with invasive cervical cancer compared to no screening (risk ratio 0.38; 95% confidence interval 0.23, 0.63). The significant protective effect of cytology screening (odds ratio 0.35; 95%. Confidence interval 0.30, 0.41) and concludes that cervical screening does offer protective benefits and is associated with a reduction in the incidence of invasive cervical cancer and cervical cancer mortality.

Jiangrongwang et.al., (2016) conducted a study to investigate the risk of invasive cervical cancer after detection of atypical glandular cells (AGC) during cervical screening, nationwide population based cohort study included women 23-59

of age group, participants 3054328 women living in Sweden, the result showed the prevalence of cervical cancer was 1.4% for women with AGC, which was lower than for women with HSIL (2.5%) but higher than for women with LSIL (0.2%) adenocarcinoma accounted for 73.2% of the prevalent cases associated with ACG, only 54% of women with AGC underwent histology assessment within six months, much less than after HSIL (86%). Among women with histology assessment within six months, the incidence rate of cervical cancer after AGC was significantly higher that than after HSIL for up to 6.5 years.

Studies Related to VIA/VILI Screening Methods of Cervical Cancer

Rengaswamysankaranarayananet. al., (2003) conducted a study to test characteristic of visual inspection with 4% acetic acid (VIA) and Lugol's iodine (VILI) in cervical cancer screening a cross sectional design carried out for 4444 women aged 25-65 years. 8.4% tested VIA + and 15.8% tested VIA ++ thus 24.2% of women were low threshold VIA positive and 15.8% high threshold VIA positive. For VILI 17.8% were positive of women tested on cytology 14.5% were positive. 143 women had a reference diagnosis of CIN 2-3 and 6 had invasive cancer of the 143 CIN 2-3 lesions, 134 lesions were confirmed by histology and 9 were confirmed by colposcopy.

Dr.Parul Garg (2011) conducted a comparative study of visual inspection and cytologic screening, seven hundred and sixty sexually active women between 25-60 years of age underwent pelvic examination by both Pap smear and VIA/VILI. The study resulted as sensitivity of VIA/VILI was 94.3% versus 74.3% for cytology. VIA/VILI specificity was 82.6% versus 93.7% for cytology VIA/VILI had acceptable

test qualities and may in low resource settings be implemented as a large scale screening method.

Priscilla Busingye, AnnetteeNakimuli, Evelyn Nabunya, TwahaMutyaba (2012) conducted a study to assess acceptability of cervical cancer screening via visual inspection method, a total of 384 participants were recruited by interviews, 229 women who agreed to undergo screening by VIA/VILI, 209 (91.3%) were willing to recommend the service to other women, while 223(97.4%) stated that they would undergo VIA/VILI again if the need arose. The report concluded that cervical cancer screening by VIA/VILI was related highly acceptable among women who underwent the procedure.

Ami Mehta et. al., (2013) conducted a study of high risk cases for early detection by Pap's smear and visual inspection by Logul's Iodine method. This comparison study was carried out in 50 women of high risk group, aged 20 to 65 years. The result shows that sensitivity, specificity, positive predictive value, negative predictive value of PAP test was 80%, 97%, 80%, 97% respectively compared with reference standards. Sensitivity, specificity, positive predicative value, negative predictive value of VILI test was 80%, 91.11%, 50%, 97.6% respectively, compared that VILI and PAP test can be used effectively for detection of precancerous lesion of cervix at hospital setup as well as community level.

Sathyanarayana, Asthana, Bhambani, Sodhari, and Gupta (2014) conducted a comparative study of cervical cancer screening method in rural community based on cress sectional design, total of 7603 women (30-59) years surveyed and screened by Pap and visual inspection method. Screen positivity rates by Pap, VIA and VILI were 2.6%, 9.7% and 13.5% respectively. Sensitivity and

specificity of detecting the CIN III + lesions were 87.5% and 98.8% for Pap, 50.0% and 96.7% for VIA and 50% and 95% for VILI and concluded that VIA screening demonstrated as a feasible primary screening test for detecting high grade CIN and as to perform better when the Pap test is not feasible.

DoaaSheeshaet. al., (2015) conducted a descriptive study to find the accuracy of visual inspection with acetic acid in cervical ectopy evaluation, 50 female patients who attended the outpatient Gynaecology clinic were screened. The result revealed that 30 subjects (60%) were VIA positive and 20 subjects (40%) were VIA negative. VIA sensitivity was 100% specificity 45%, PPV 71% and NPV 75%. There was a statistically significant relation between duration of marriage, high parity, IUDs use and VIA positivity. The conclusion states that VIA test was accurate and effective method for detecting cervical ectopy.

Usha Rani Poli, Bidinger and SwarnalathaGowri Shankar (2015) conducted a VIA-based cervical screening method. Eligible women aged between 26 to 60 years, a total of 18,869 women were screened by a single round of VIA testing with a positive rate of 10.75%. Biopsy proven high grade squamous intraepithelials (HSILS) were 90 (0.48%) and low grade squamous intraepithelials (LSILS) were 43 (0.28%). The overall prevalence rate is 1.05%. a total of 312 (1.65%) cryotherapies were done and 49 women underwent hysterectomy.

Shuchi consult et. al., (2016) conducted a comparative study of effectiveness of PAP smear versus visual inspection method, total of 210 patients attending the Gynaecology ODD were enrolled in the study. The result shows that out of 210 patients 34 patients (16.27%) had a positive pap smear, 23 patients (11.00%) had inflammatory smear and 152 had normal smear. VIA was positive in 29 patients

(13.81%) and VILI was positive in 24 patients (11.43%), 31 patients (14.75%) showed features of CIN on colposcopy and concluded that pap smear, VIA, VILI and colposcopy combination tests had 100% sensitivity.

Megan Huchko et. al., (2017) conducted a comparative study of two visual inspection methods for cervical cancer screening totally 3462 women between the age of 23 and 60 years underwent cervical cancer screening of these 2338 women in the VIA group, 618 (26.4%) had a positive results, 597 (96.6%) women underwent immediate calposcopy, 1124 women in the VIA/VILI group, 244 (21.7%) had a positive result on both tests; and were referred for calposcopy P<0.01. VIA alone appears to be a more suitable for screening cervical cancer.

Studies Related to Prevalence of Cervical Cancer

AswathySreedevi, Reshma, Javed and Avani Dinesh (2007) conducted a study related to epidemiology of cervical cancer with special focus on India. Various population based cancer registers reported that peak age of occurrence of cervical cancer in India is between 55 and 59 years, highest age adjusted rates are 24.3 per 100000 women. HPV infection prevalence is 87.8%-96.67% among women with cervical cancer and 9.90%-36.8% among women with no cancer or other gynaecological morbidities. There is evidence is greater indicating a higher sensitivity for VILI among women of lower classes, those less educated and these with a larger number of children.

Durowadeet. al., (2012) conducted a cross-sectional study involving the screening of women aged 25 to 64 years for cervical cancer using papanicolaou smear. A total of 200 subjects were screened and the result showed that only 10 (5.0%) respondents had positive cytology result of their 1 (10.0%) was high grade

squamous intraepithelial lesion (HGSIL) and 9 (90.0%) were low grade squamous intraepithelial lesion (LGSIL) which corresponds to 0.5% and 4.5% of the total respondents respectively. Risk factors for cervical cancer identified included coitarche, tobacco, and smoking, number of sexual partners and family history of cervical cancer. This study concludes the findings attest to the increasing burden of cervical cancer.

Salvatore Vaccarellaet.al., (2013) conducted a worldwide trends in cervical cancer incidence 38 countries in five continents, age group 30 to 74 years were selected strong downward trends in cervical cancer risk by period were found in the highest income countries, whereas no clear changes by period were found in lower-resourced settings. In countries where effective screening has been in place for a long time the consequences of underlying increases in cohort specific risk were largely avoided.

Lixin Tao et.al., (2014) conducted a study regarding prevalence and risk factors for cervical neoplasia by using descriptive design, totally 728, 704 were screened aged 25-65 years. The result reported that the prevalence of cervical intraepithelial neoplasia (CIN) I, II, III was 50.2, 34.0 and 36.4 per 1,00,000 respectively. Prevalence of cervical cancer was 12.2 per 1,00,000. Risk factors for HSIL included being in age group of 46-55 years (OR=1.15; 95% CI: 1.07-1.44) bleeding after intercourse (OR=2.08; 95% CI: 1.40-3.10) and presence of trichomonas vaginalis infection (OR=2.62; 95% CI: 1.35-5.07). Cervical inflammation (OR=4.22; 95% CI: 3.39-5.26) and genital warts (OR=3.89; 95% CI: 2.54-7.70). High education level was found to be protective (OR=0.79; 95% CI: 0.37-0.90). The prevalence of

cervical neoplasia is relatively high in Beijing. Particular efforts should be made to ensure these women were included in cervical cancer screening programs.

Saurabh Bobdeyet.al., (2014) conducted a study regarding Burden of cervical cancer and role of screening in India. (Cross sectional design) 11 studies included that result, the age highest being 23.01/100000 in Mizoram state, 22.54/100000 in pasighat and lowest being 4.91/100000 in dibrugash district. The older PBCRs such as Bengaluru, Bhopal, Chennai, Delhi, Barshi rural reported an age of incidence rate between 13 and 16/100000. All the major registries from 1998 to 2014 reported a statistically significant decreasing trend of cervical cancer. More than 85% of patients in were from age group 40 years and above. The maximum number of cases was reported in 50-59 years of age group amounting to 27.37% of all cervical carcinoma.

Jean Damascene Makuzaet.al., (2015) conducted a cross sectional analytical study of prevalence and risk factor for cervical cancer and precancerous lesions. Study was done in 3 districts of Rwanda women aged 30-50 years. The result stated that the prevalence of pre-cancer and invasive cervical cancer was 5.9% and 1.7% respectively. Risk factors, sexual activity less than 20 years (OR=1.75; 95% CI=(1.01,3.03)); unmarried single, divorced and widowed (OR=3.29; 95% CI=(1.26,8.60)); older age of participants (OR=2.10; 95% CI=(1.20,3.67)) and high number of children born (OR=0.42; 95% CI=(0.23,0.76)) were protective the study concludes that cervical cancer continues to be a public health problem in Rwanda, but screening using VIA is practical and feasible even in rural settings.

CHAPTER : III

RESEARCH METHODOLOGY

Research Methodology is a systematic way to solve problem. This chapter depicts the description and varies steps adapted to collect and organize data for the present study. The study was intended to assess the prevalence of cervical cancer among women with visual inspection method.

The Research Methodology includes research approach, research design, schematic representation of research methodology, setting, population, sampling technique, sample selection criteria, data collection tool, description of tool, the procedure for data collection and plan for data analysis.

Research Approach:

Research process is an orderly way of dealing with the research problems, where variables are generally studied in numerical form. Research approach used in this study was quantitative descriptive survey approach.

Research Design

In the presence study the researcher adopted descriptive research design.

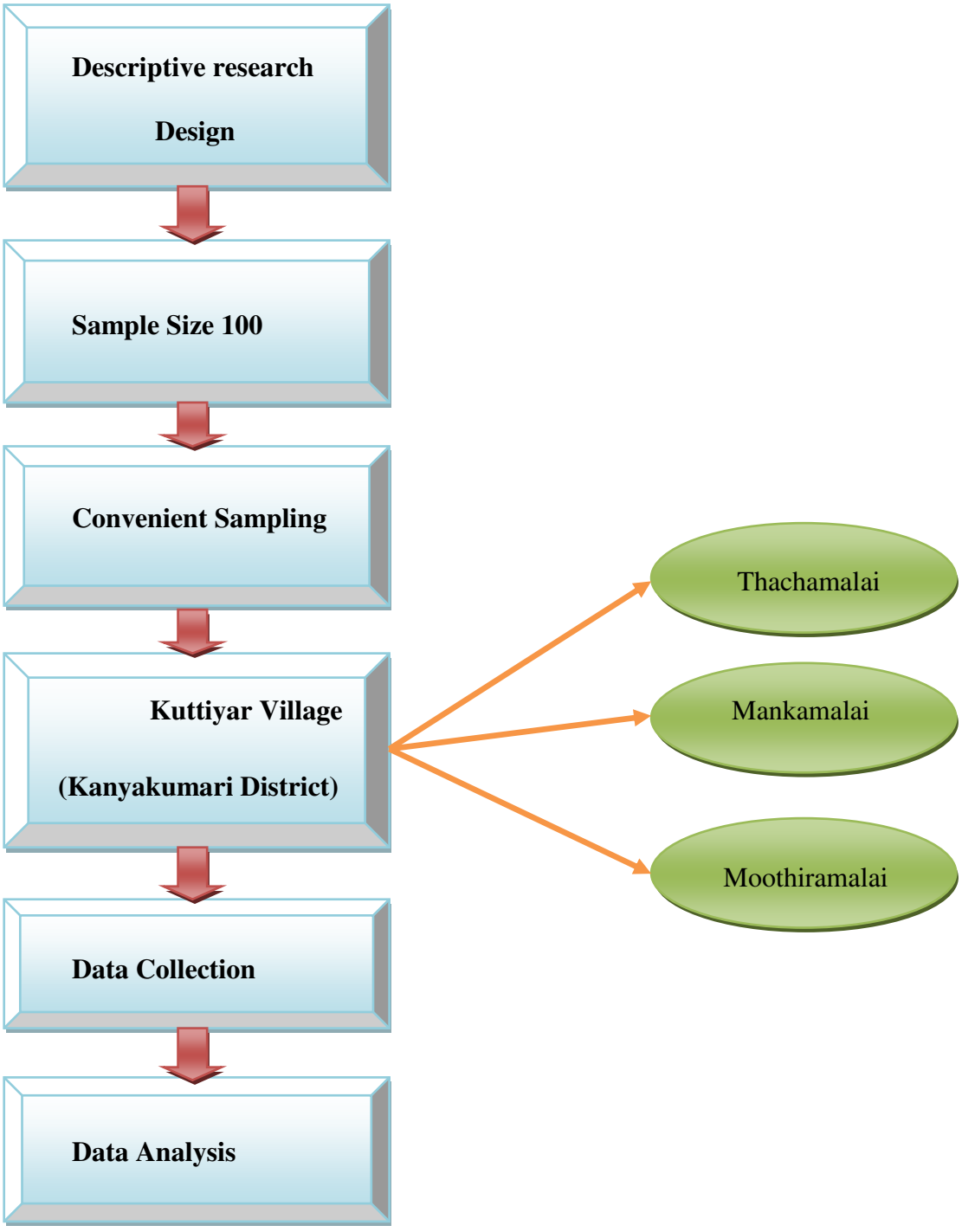


Figure 2: Schematic Representation of Research Methodology

Setting of the Study:

The present study was conducted in Thachamalai, Mankamalai, Moothiramalai of Kuttiyar village which is 30 km away from Pecheiparai. The total population of selected Kuttiyar village is 966 including both men and women of these approximately 186 women under the age group of 30-50 years were selected in the present study.

The PHC of Pechiparai covers a population of 36,684 and has 7 sub centre. In the PHC the VIA/VILI camp for screening cervical cancer was conducted for every six months once. All the women above age group of 30 years are benefited by the camp except the Kuttiyar village. People especially the village of Thachamalai, Mankamalai and Moothiramalai.

The Kuttiyar village people didn't attend the camp as they were far from the PHC and not having adequate transport facilities to reach the medical camp. The area was remote and they travel only by boat to reach the school, college, city and medical facilities. The people in the village were not aware of the cervical cancer and the different screening method available in the health care setting.

Only the community health nurse approaches the areas of these villages and involved in immunization, antenatal check-up, treatment for minor problems, conducting deliveries and the risk cases were referred to PHC for further treatment.

The non-availability of transport facility, lack of awareness of the women regarding cancer screening programme and the statistical evidence of more incidence of cervical cancer in remote villages, as well as risk factors are expectable makes the investigator to select the tribal villages for the present study.

With the help of the community health nurse, the investigator travelled to the area by boat and provided door to door awareness regarding cervical cancer screening(VIA/VILI) method and explained its importance and need. As per the predetermined inclusion criteria, the researcher include maximum sample in VIA/VILI screening test.

POPULATION:

Target Population:

Target population refers to the entire group of individuals which the researcheris interested in generalizing the conclusions (Nick Stauner 2014). In the present study women under the age group of 30-50 years from selected Kuttiyar village in Kanyakumari District.

Accessible Population:

Accessible Population refers to the easily available segment of a target population. **(Kemeth (2017)**

In the present study women in the age group of 30-50 years from the selected (Thachamalai, Mankamalai, Moothiramalai) villages of Kuttiyar.

Sample size:

The sample size consists of 186 women under the age group of 30-50 years residing at selected Kuttiyar village in Pechipparai panchayat, the researcher selected 100 samples based on inclusion criteria.

Sampling Technique:

Sampling is a process of selecting representative units from an entire population of a study (Suresh k. Sharma 2014). Sampling technique adopted in this present study was non-probability convenient sampling technique.

Sample selection criteria:

Samples were selected based on the following inclusion and exclusion criteria.

Inclusion Criteria:

- Women who are willing to participate.
- Women with or without having family history of cancer.
- Women available at the time of data collection.
- Women under the age group of 30-50 years.

Exclusion Criteria:

- Women with history of cervical cancer.
- Women not willing to participate.
- Pregnant women.
- Active vaginal bleeding.
- Post hysterectomy patient.
- Any other infection in genital area and cervix.
- Recent papsmear done.
- Post-menopausal women

Data Collection Tool:

A research instrument or a device used to measure the concept of interest in a research project that a researcher used to collect data. (**Suresh K. Sharma 2014**)

The present study tool consists of ;

Section A - Demographic Variable Proforma.

Section B - Menstrual Variable Proforma.

Section C - Obstetric & Gynaecological Variable Proforma.

Section A:

Demographic variables consists of age, education, occupation of women, occupation of husband, residence, age at marriage, duration of marriage, husband's social habits, family monthly income and previous knowledge of VIA/VILI.

Section B:

Menstrual variables consists of age at menarche, pattern of menstrual cycle, duration of menstrual flow, period of menstrual cycle, presence of menorrhagia, presence of dysmenorrhea and presence of metrorrhagia.

Section C:

Obstetric and Gynaecological variables consists of parity, mode of delivery, place of delivery, number of abortion, type of contraception, presence of vaginal discharge, colour of discharge, presence of dyspareunia, post coital bleeding and presence of pruritus vulvae.

Materials required for VIA/VILI screening test:

To find out the presence of cervical cancer using direct visual inspection method (VIA/VILI), the researcher prepared the required materials such as;

- Sterile gloves
- Sterile cusco's speculum of different standard sizes
- Sponge holding forceps
- Sterile swabs
- Normal saline
- Lugol's Iodine solution
- Acetic acid 3-5%
- Light source
- Examination table and Mask

Steps for Application of VIA/VILI Test:

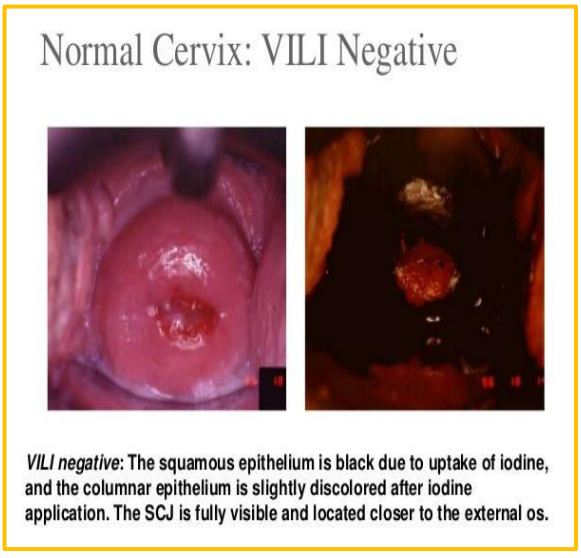
- Explained the procedure, taken verbal consent, privacy provided.
- Patients were asked to lie down in lithotomy position.
- Unaided visual inspection of cervix was first performed under good illumination and findings noted.
- Cervix was cleaned with sterile cotton swab, and then it was painted with 3-5% acetic acid solution using a sterile cotton swab.
- Cervix was inspected after one minute and changes in the surface epithelium were noted.
- The cervix was cleaned with normal saline sterile swab.
- Next appliedLugol's iodine on the cervix as the second step of procedure and cervix was inspected for the changes in the surface epithelium.

Result of VIA Test:

Positive	Negative
Criteria: • Acetowhitening • Rapid intake of acetic acid • Slow loss of acetowhitening • Rough surface of the lesion • Well defined borders of the lesion.	**Criteria:** • No Acetowhitening • Slow intake of acetic acid • Rapid loss of white colour • Smooth surface of the lesion • ill-defined borders of the lesion.

VILI Test Result:

Negative	Positive
Criteria: • Normal cervix where squamocolumnar junction stains mahogany brown or black and the columnar epithelium does not change colour. • Patchy, indistinct, ill defined, colourless or partially brown areas in transformation zone. • Scattered irregular, ill defined, non-iodine uptake areas, on cervix. • Thin, yellow, non-iodine uptake areas with angular margins, resembling geographical areas located faraway from squamocolumnar junction.	**Criteria:** • Well defined, dense, thick bright mustered yellow or saffron yellow, iodine non-uptake areas touching the squamocolumnar junction. • Circumferential, well defined, thick dense, yellow lesion occupying large portion of cervix. • Growth on the cervix turns yellow.



Validity:

Content validity of the tool was established on the basis of five experts opinion that is from Obstetrics and Gynaecology nursing personal. This helped the investigator to be acquainted with the problem and guided in the process of tool designing. Tools used in the study were developed by the researcher after reviewing the current local and international related literatures using books, articles, scientific magazines and electronic version.

Reliability:

The reliability of the tool was identified by test-retest method using spearman rank correlation formula. The r value is 1.00; hence the tool was reliable to the present study.

Pilot Study:

In order to find out the feasibility of the study, pilot study was conducted in Pecheiparai PHC with the sample size (10 patients) in order to test the applicability, relevance and clarity of the study tools. The necessary modification were done by combining the Obstetric and Gynaecological variable proforma. The pilot study sample was excluded in the present study.

Data Collection Procedure:

- ✓ Data were collected from the samples of selectedKuttiyar village which were chosen according to the inclusion and exclusion criteria.
- ✓ The researcher introduced herself to women and the aim of the study was explained prior to their participation to obtain their acceptance and co-operation as verbal consent.
- ✓ The researcher clarified each item of the data collection tool and explained its meaning to the samples. Samples were allowed to ask for any interpretation, elaboration or explanation.
- ✓ The data were collected for 3 days/week(from 01.02.2017 to 04.03.2017).
- ✓ By using the predetermined criteria positive and negative patients were segregated and positive cases were referred to the specialist for further assessment and management.

Plan for Data Analysis:

The data to be analysed planned on the basis of objectives and hypothesis of the study. In the present study the data obtained is analysed using descriptive and inferential statistics. The variables such us demographic, menstrual, Obstetric and Gynaecological data are analysed by using frequency and percentage distribution (descriptive statistics). The association is analysed by using chi-square (inferential statistic)

CHAPTER : IV

DATA ANALYSIS AND INTERPRETATION

The analysis of data in general way involves a number of closely related operations which are performed with the purpose of summarizing the collected data and organizing these in such a manner that day answers the research questions.

This chapter deals with the analysis and interpretation of data collected in accordance with objectives stated for the study. The data collection were analysed by using descriptive and inferential statistics. The association was studied by chi-square test.

Objectives of the study

- To assess the prevalence of cervical cancer among women 30-50 years.
- To find out the association between prevalence of cervical cancer among women with their selected demographic, menstrual, obstetric and gynaecological variables.
- To find out the risk factors of cervical cancer among the respondents.

The study findings are presented in sections as follows:

Section A:

This section deals with the frequency and percentage distribution of samples according to their demographic variables.

Section B:

This section deals with the frequency and percentage distribution of samples according to their menstrual variables.

Section C:

This section deals with the frequency and percentage distribution of samples according to their obstetrical and gynaecological variables.

Section D:

This section deals with the prevalence of cervical cancer among women under age group of 30-50 years.

Section E:

This section deals with the association between prevalence of cervical cancer among women with their selected demographic, menstrual, obstetric and gynaecological variables.

Section F:

This section deals with the frequency and percentage distribution of risk factors of cervical cancer among the respondents.

Section A:

This section deals with the frequency and percentage distribution of samples according to their demographic variables.

Table 1:

Frequency and percentage distribution of samples according to their demographic variables.

N=100

Sl. No	Demographic variables	Frequency	Percentage
1.	**Age in years**		
	a) 30-35	20	20.0%
	b) 36-40	22	22.0%
	c) 41-45	27	27.0%
	d) >45	31	31.0%
2.	**Education Level**		
	a) Illeterate	72	72.0%
	b) Primary School Education	26	26.0%
	c) Seconday School Education	1	1.0%
	d) Higher Secondary Education	1	1.0%
	e) Collegiate Education	0	0%
3.	**Occupation of women**		
	a) House wife	65	65.0%
	b) Coolie	34	34.0%
	c) Private Employee	1	1.0%
	d) Government Employee	0	0%
4.	**Occupation of Husband**		
	a) Coolie	97	97.0%
	b) Private employee	3	3.0%
	c) Government Employee	0	0%

continued...

Table 1 continued .....

Sl. No	Demographic variables	Frequency	Percentage
6.	**Age at Marriage in Years**		
	a) <20	55	55.0%
	b) 26-25	41	41.0%
	c) 26-30	4	4.0%
	d) >30	0	0%
7.	**Duration of Marriage**		
	a) <5 years	0	0%
	b) 5-10 years	18	18%
	c) >10 years	82	82.0%
8.	**Husband's Social habits**		
	a) Smoking	29	29.0%
	b) Drinking	62	62.0%
	c) Tobacco use	9	9.0%
	d) None	0	0%
9.	**Family Monthly income**		
	a) Rs.<20,000	100	100%
	b) Rs.21,000-30,000	0	0%
	c) Rs.>30,000	0	0%
10.	**Previous Knowledge of VIA/VILI**		
	a) Yes	12	12.0%
	b) No	88	88.0%

Data Presented on Table 1 shows that 20% of samples belongs to 30-35 years, 22% of samples belongs to 36-40 years, 27% of samples belongs to 41-75 years and 31% of samples belongs to more than 45 years. Regarding the educational level 72% of samples were illiterate, 26% of samples completed primary education 1% of sample completed secondary education and 1% of sample completed higher secondary education. Regarding the occupation of women 65% of samples were house wife, 34% samples were coolie, 1 % of the sample was private employee. Regarding the occupation of husband 97% of samples were coolie and 3% of samples were private employee.

With regards to residence, 100% of the samples were from rural area and none of them from urban area. Regarding the age at marriage, 55% of the samples got married before 20 years, 41 % of samples got married at the age of 21-25 years, 4% of sample got married at the age of 26 -30 years, and none of them got married after 30 years. Regarding the duration of marriage none of them were below 5 years, 18% of samples were between 5-10 years, 82% of samples were in more than 10 years.

With regards to Husband's social habits 29% of them were having smoking habits, 62% of them drink habits, and 9% of them use tobacco. Regarding the family monthly income, 100% of samples monthly income wasbelowRs. 20,000 rupees.

With regards to the previous knowledge of VIA/VILI, 12% of the samples had previous knowledge and 88% of samples had no previous knowledge.

The above findings are represented as Bar diagram in 3,5,7,8,9,11,12 and Pie diagram in 4,6,10.

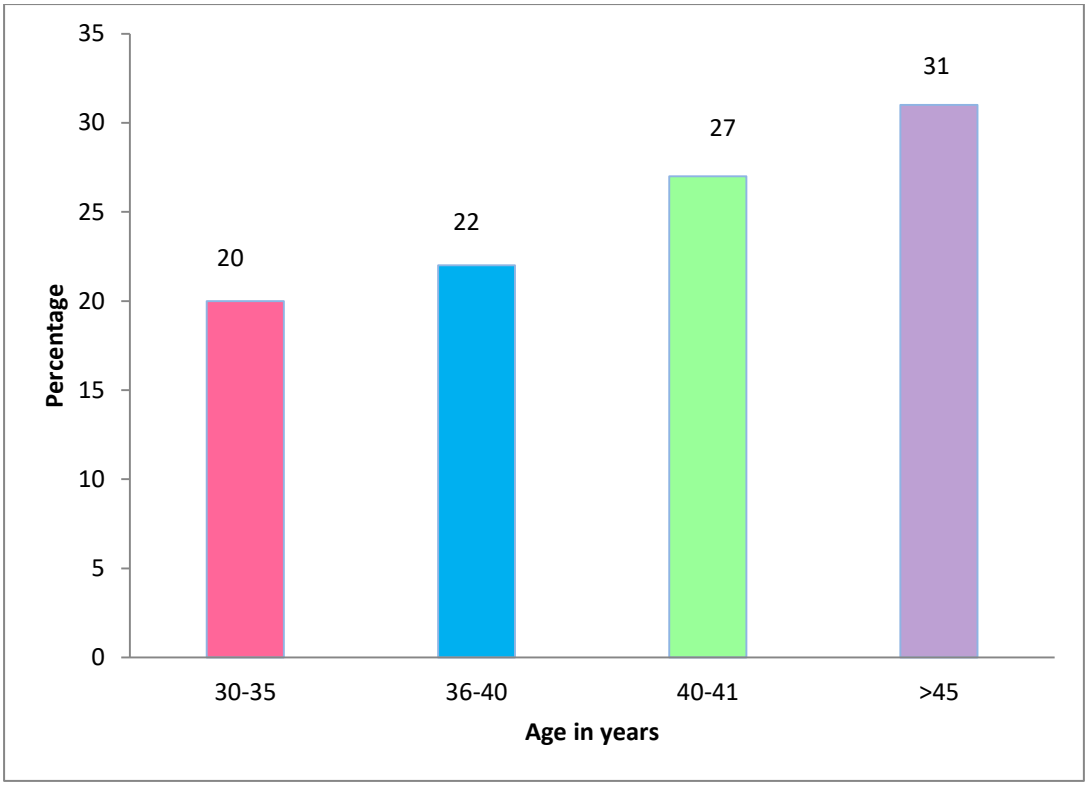


Figure 3: Distribution of Demographic Variable According to Age.

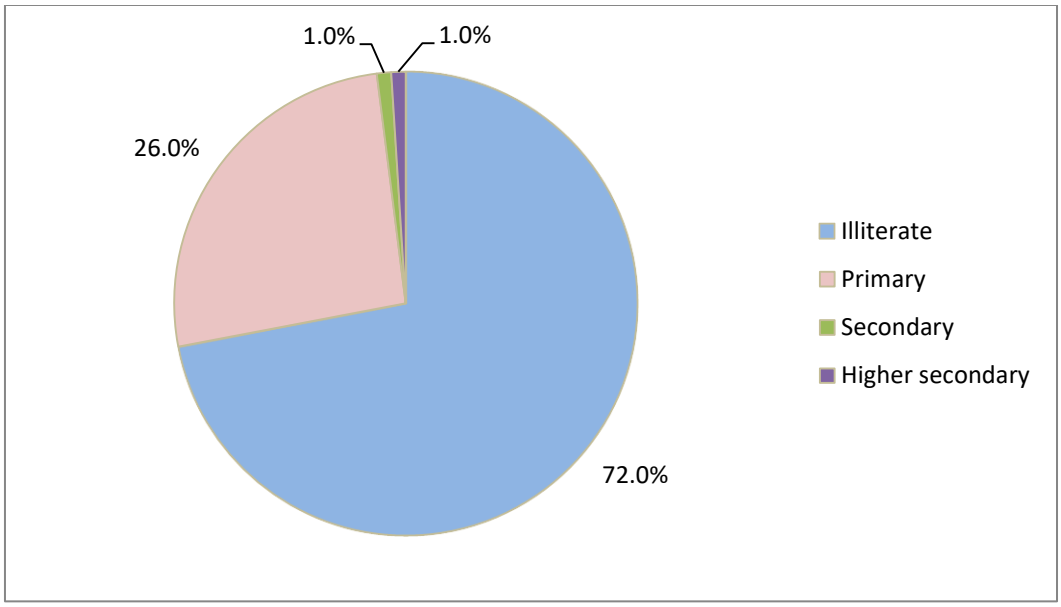


Figure 4: Distribution of Demographic Variable According to Education

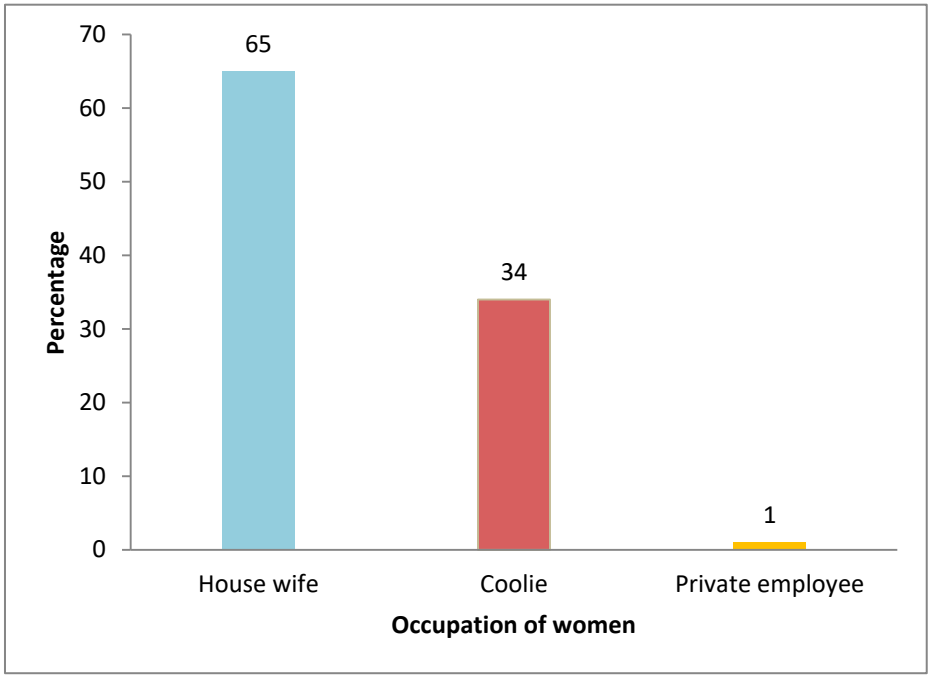


Figure 5. Distribution of Demographic Variable According to Occupation of Women

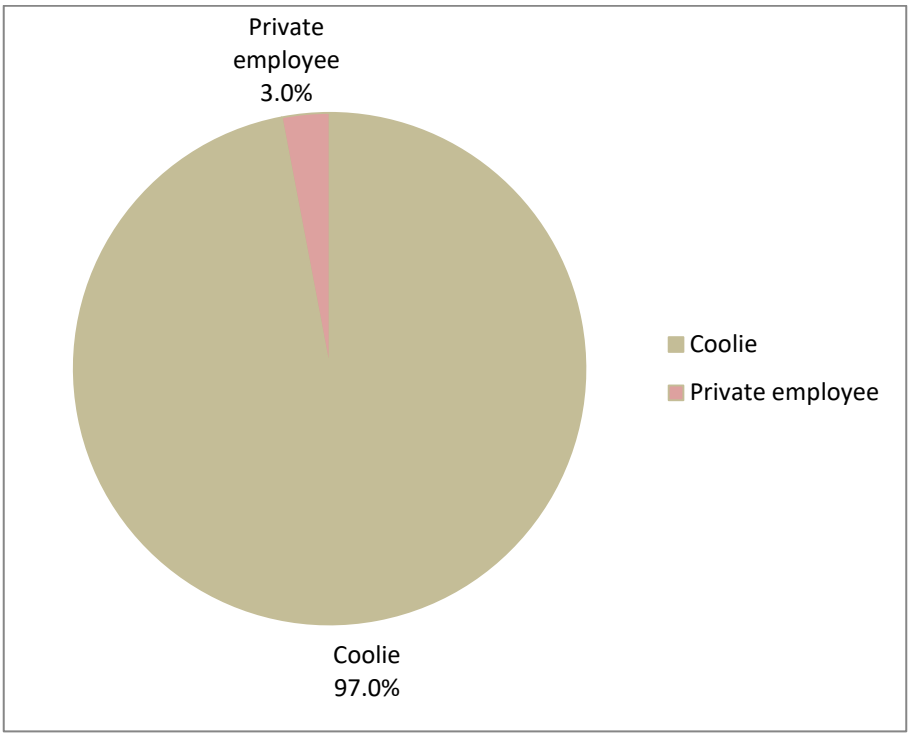


Figure 6: Distribution Demographic Variable According to Occupation of Husband.

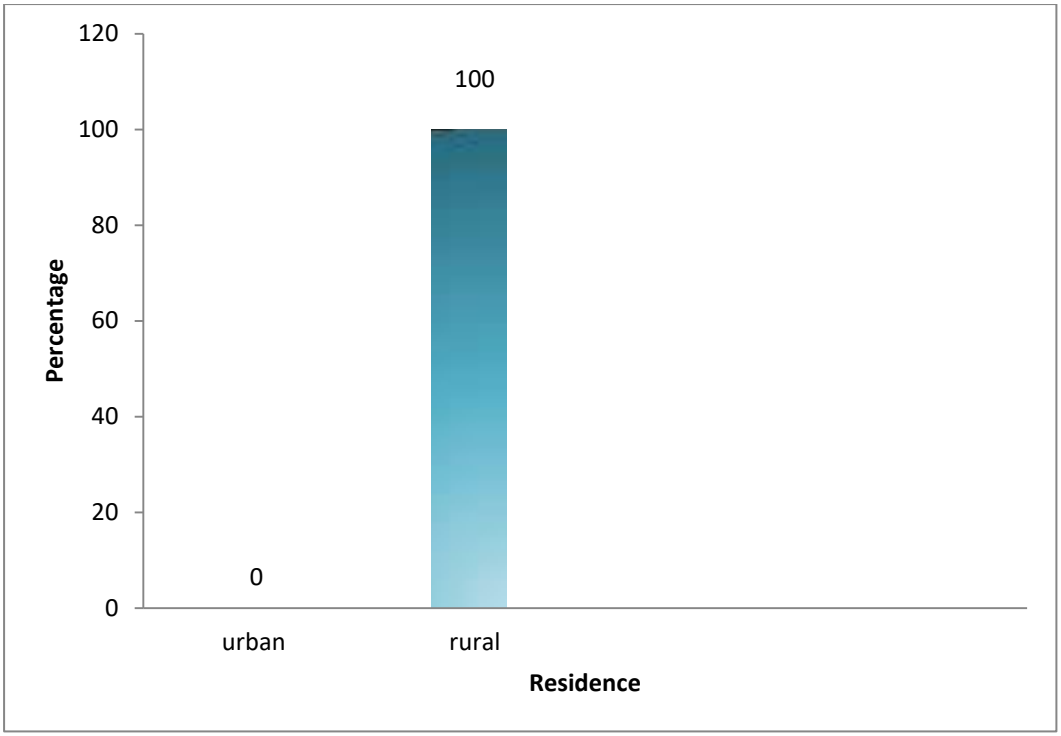


Figure 7: Distribution of Demographic Variable According to Residence.

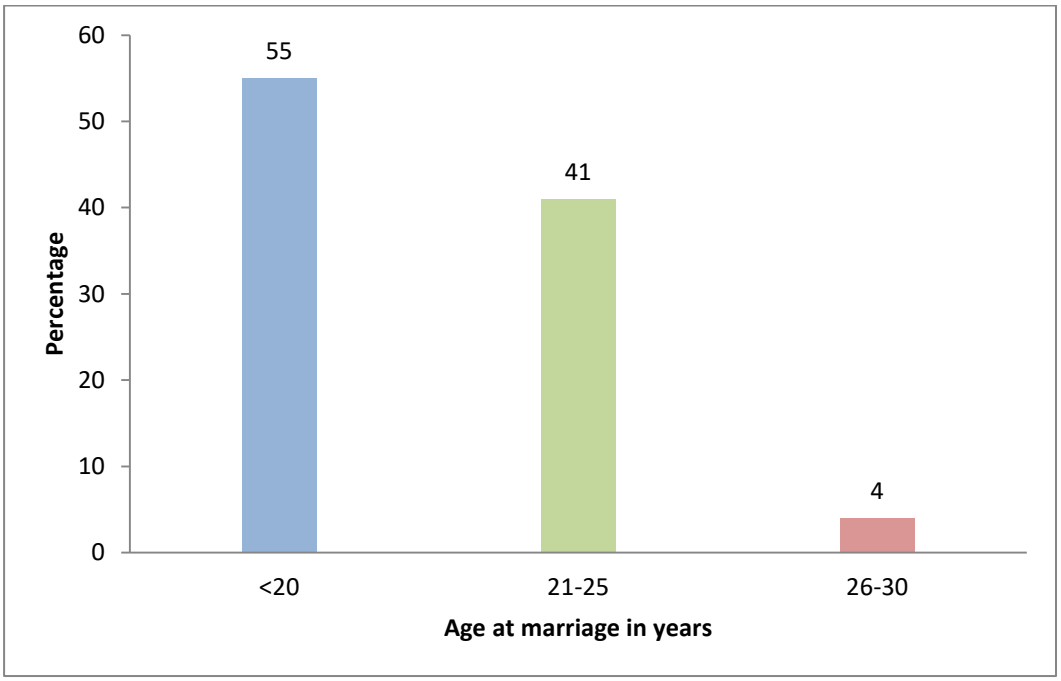


Figure 8: Distribution of Demographic Variable According to Age at Marriage.

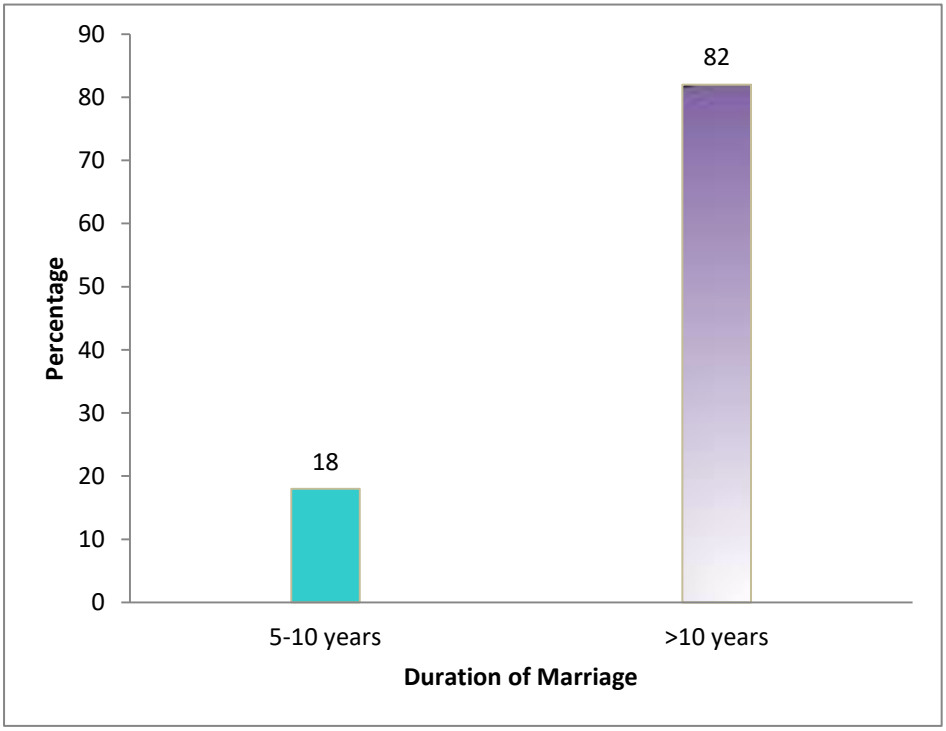


Figure 9: Distribution of Demographic Variable According to Duration of Marriage.

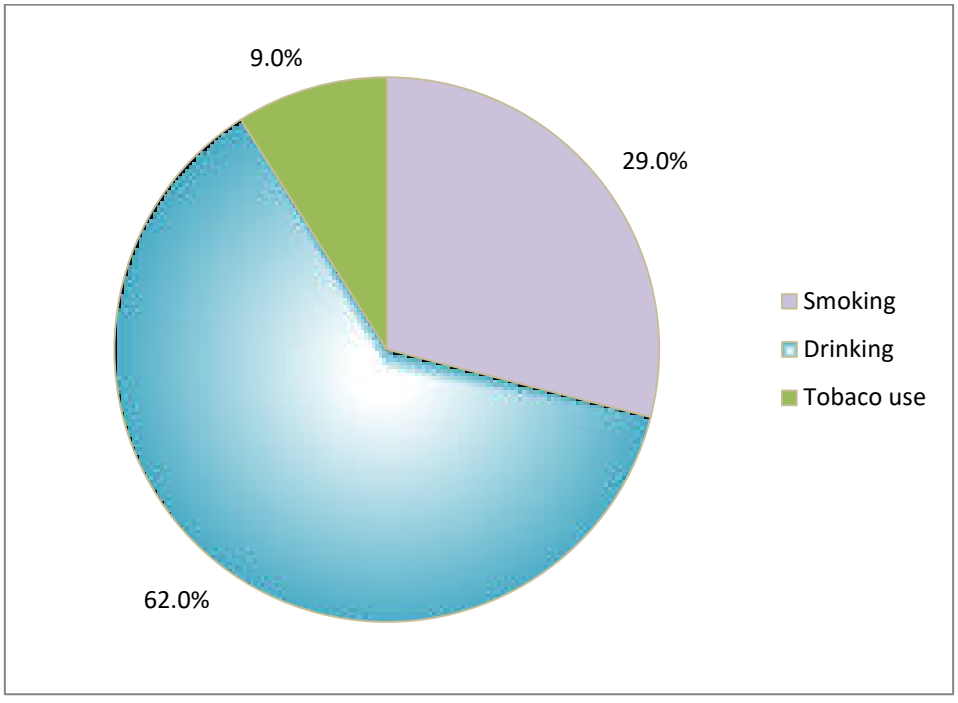


Figure 10: Distribution of Demographic Variable According to Husband's Social Habits.

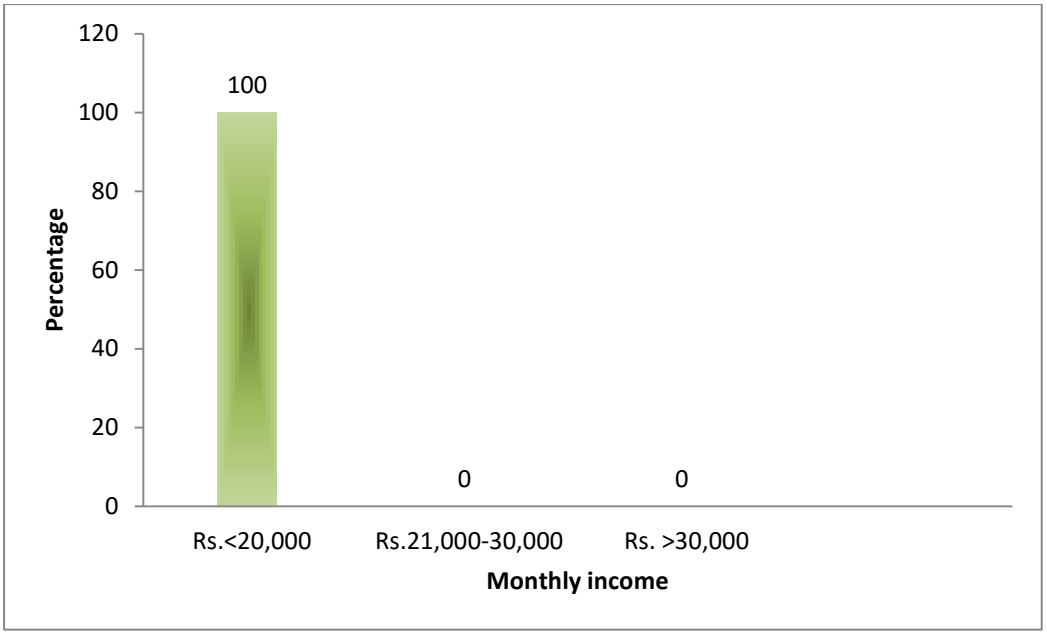


Figure 11: Distribution of Demographic Variable According to Family Monthly Income.

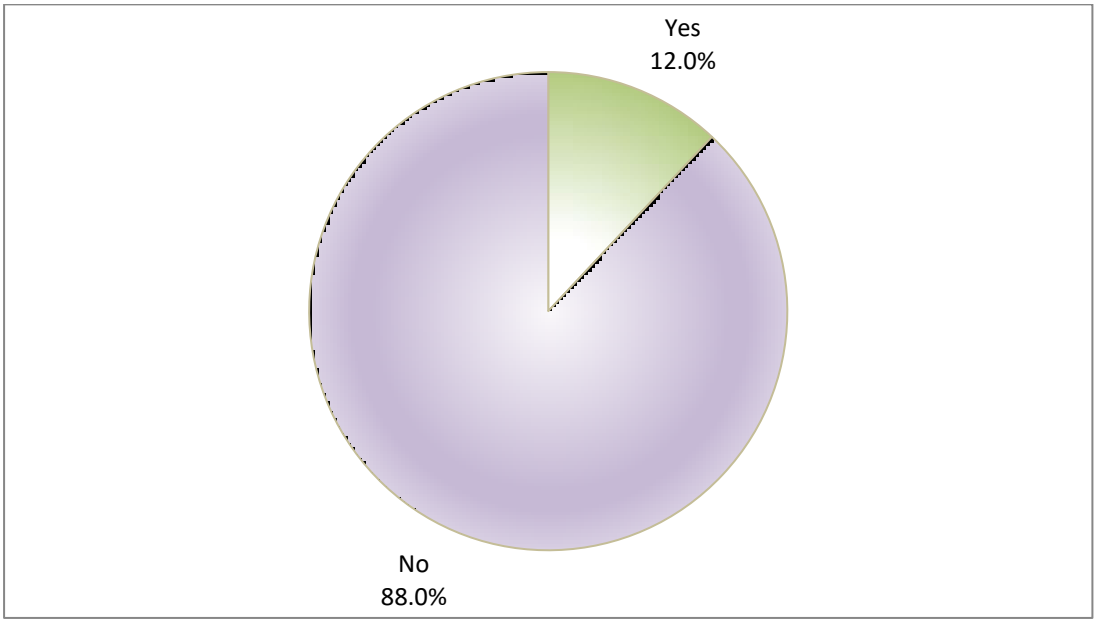


Figure 12: Distribution of Demographic Variable According to Previous Knowledge of VIA/VILI.

Section B:

This Section deals with the frequency and percentage distribution of samples according to their menstrual variables.

Table 2:

Frequency and percentage distribution of samples according to their menstrual variables.

N=100

Sl. No	Menstrual variables	Frequency	Percentage
1.	**Age at menarche in years**		
	a) 10-12	27	27.0%
	b) 13-15	62	62.0%
	c) 16-18	11	11.0%
	d) >19	0	0%
2.	**Pattern of menstrual cycle**		
	a) Regular	71	71.0%
	b) Irregular	29	29.05
3.	**Duration of menstrual flow**		
	a)< 3 days	31	31.0%
	b) 4-5 days	51	51.0%
	c) >5 days	18	18.0%

Table 2 continued .....

Sl. No	Menstrual variables	Frequency	Percentage
5.	**Presence of Menorrhagia**		
	a) Yes	26	26.0%
	b) No	74	74.0%
6.	**Presence of Dysmenorrhea**		
	a) Yes	51	51.0%
	b) No	49	49.0%
7.	**Presence of Metrorrhagia**		
	a) Yes	11	11.0%
	b) No	89	89.0%

Data presented on Table 2 shows that 27% of samples attained menarche at the age of 10-12 years, 62 % of samples were in 13-15 years, 11% of samples were in 16-18 years, and none of the samples were in more than 19 years. Regarding the type of menstrual cycle 71% of samples had regular cycle and 29% of samples had irregular cycle. With regards to extent of menstrual flow 31% of samples had less than 3 days, 51% of samples had 4-5 days and 18 percentage of sample more than 5 days of menstrual flow.

With regards to duration of menstrual cycle 6 % of samples were in less than 21 days, 75 % of samples were in 21 -35 days and 19% of sample were in more than 35 days. Regarding presence of Menorrhagia 26% of samples had complaints of menorrhagia and 74% of samples had no complaints of menorrhagia. With regards to

presence of dismennorhagia 51% of samples had the complaints of dismennorhagia and 49% of the samples had no complaints of dismennorhagia with regards to the presence of metorrhagia 11% of the samples had the complaints of mettorrhagia and 89 % of the samples had no complaints of mettorrhagia.

The above findings are represented as Bar diagram in 13,15,16 and Pie diagram in 14,17,18,19

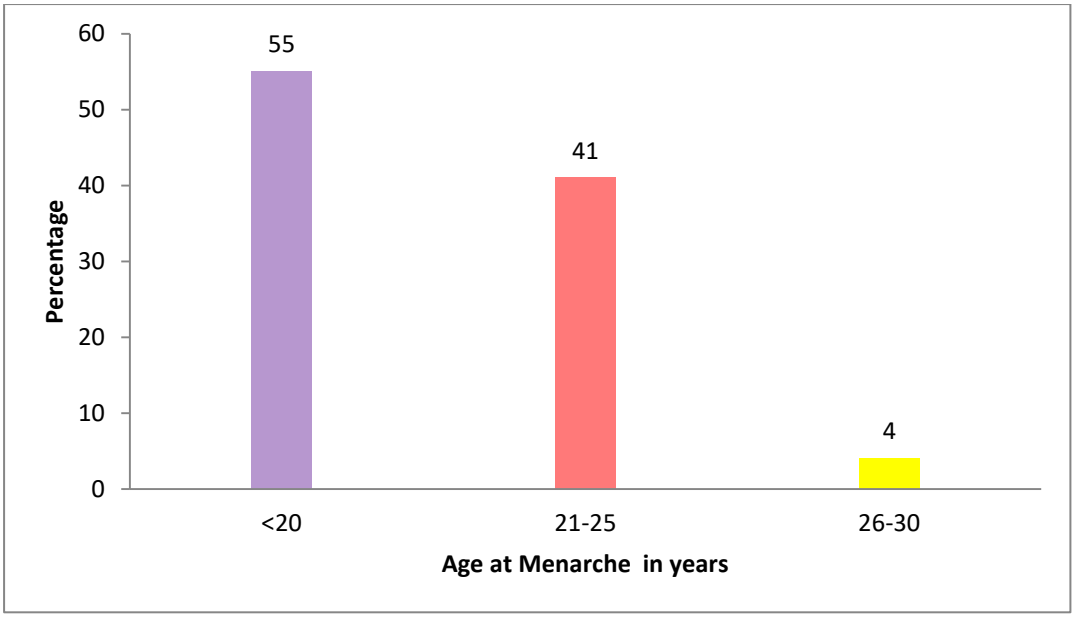


Figure 13: Distribution of Menstrual Variable According to Age at Menarche.

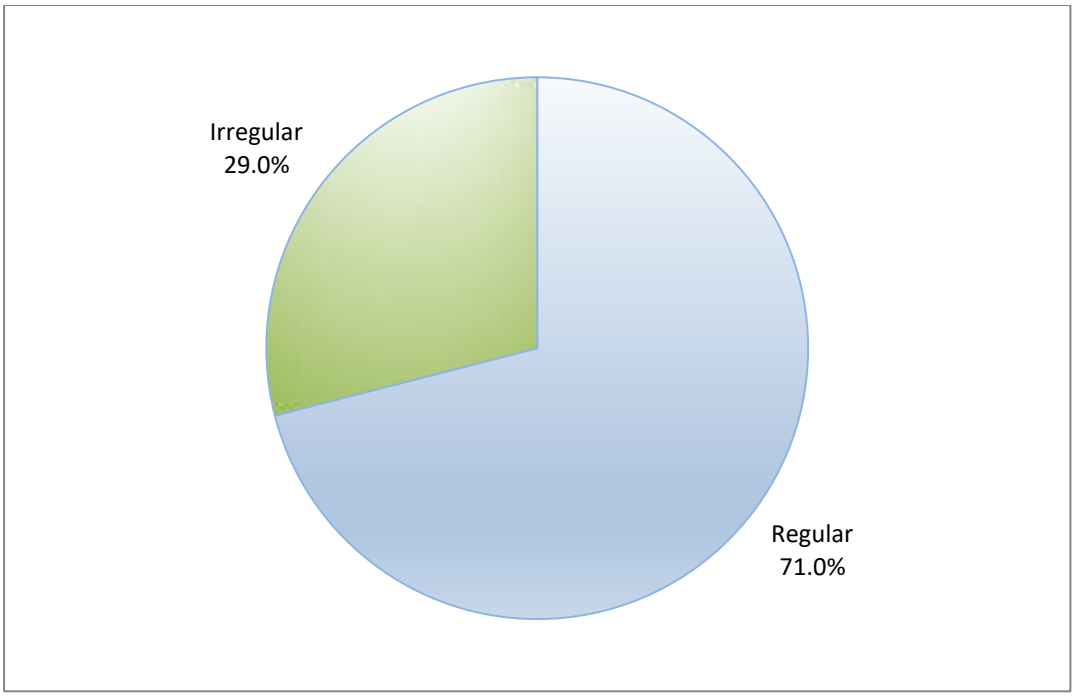


Figure 14: Distribution of Menstrual Variable According to Type of Menstrual Cycle.

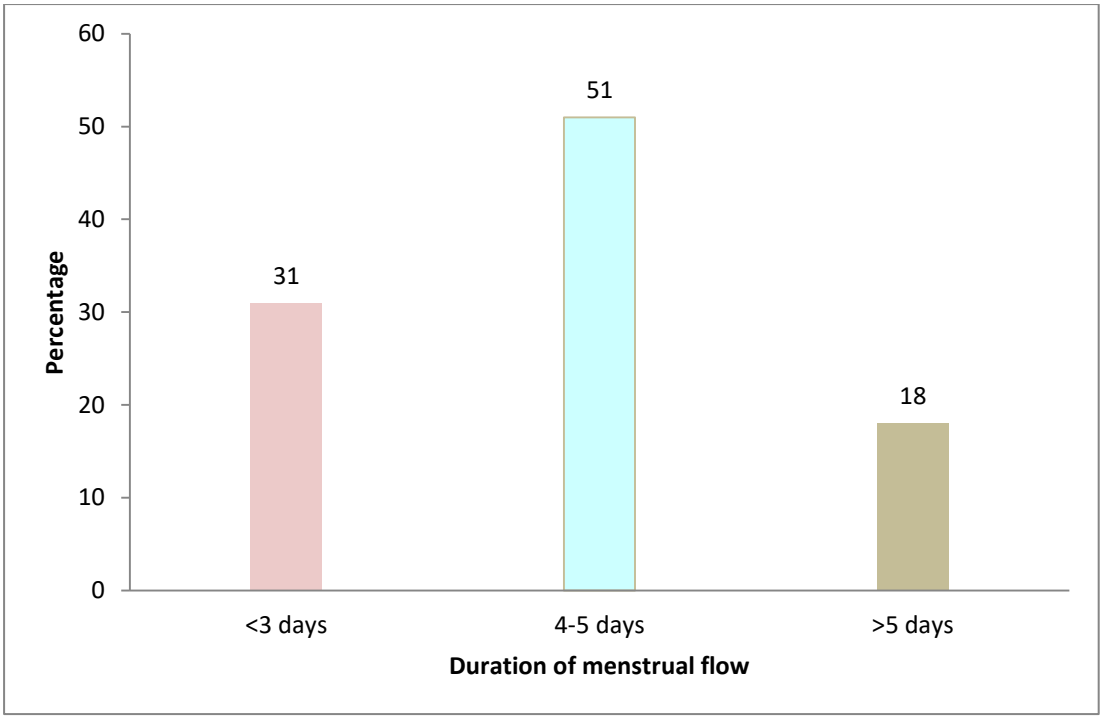


Figure 15: Distribution of Menstrual Variable According to Duration of Menstrual Flow.

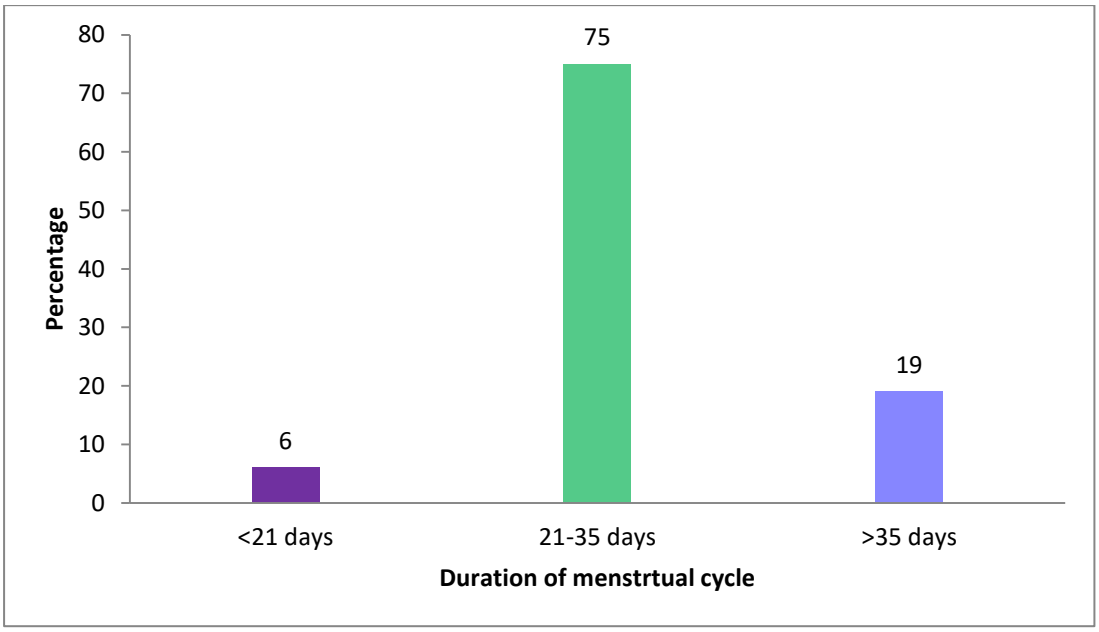


Figure 16: Distribution of Menstrual Variable According to Period of Menstrual Cycle.

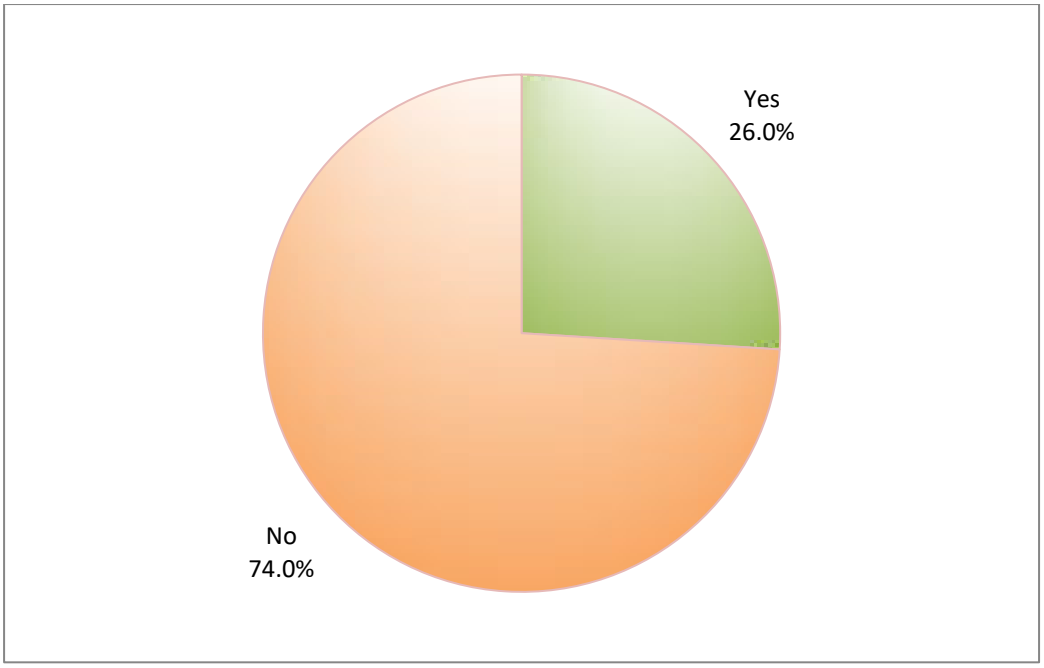


Fig 17: Distribution of Menstrual Variable According to Presence of Menorrhagia.

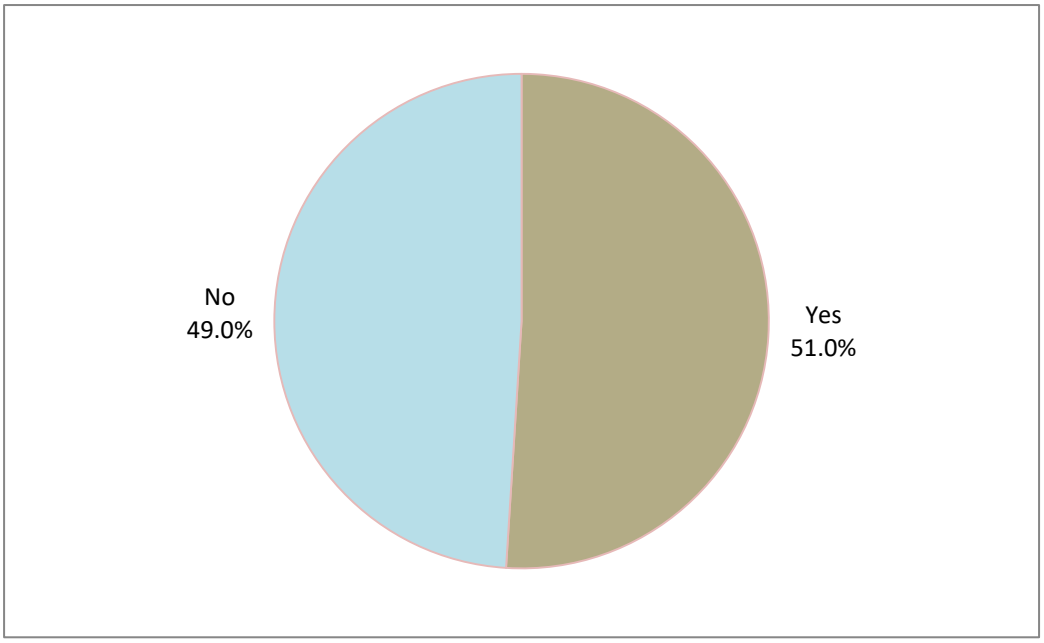


Figure 18: Distribution of Menstrual Variable According to Presence of Dysmenorrhea.

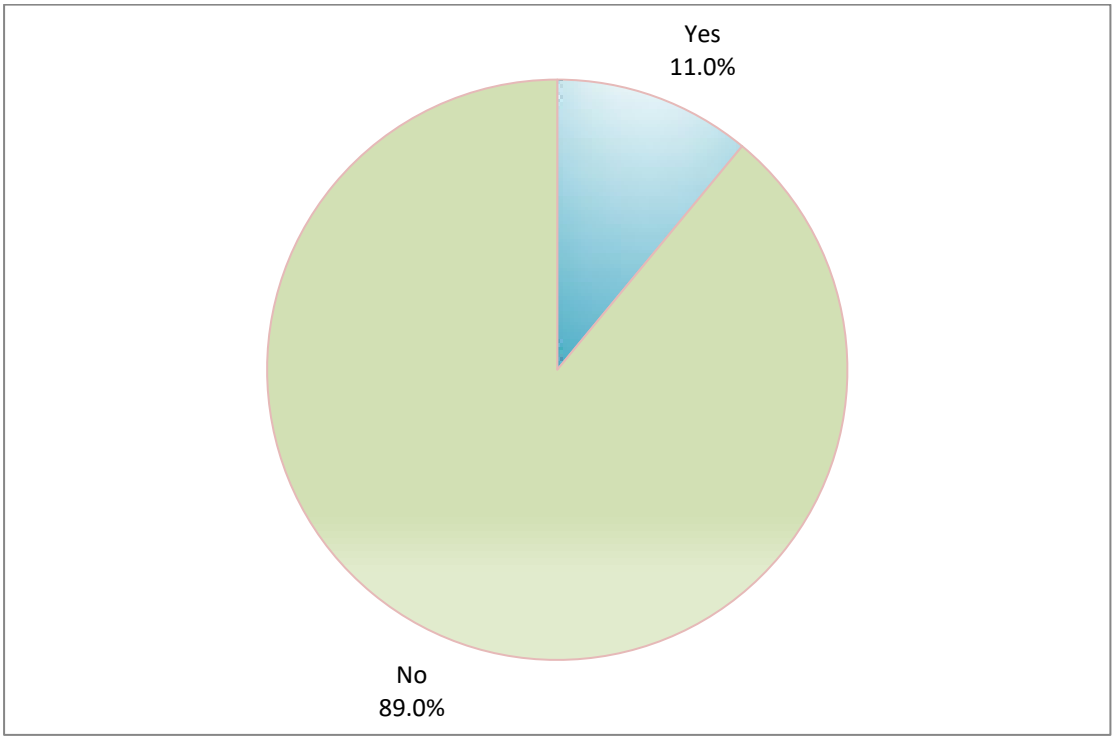


Figure 19: Distribution of Menstrual Variable According to Presence of Metrorrhagia.

Section C:

This section deals with the frequency and percentage distribution of samples according to their obstetrical and gynaecological variables.

Table 3:

Frequency and percentage distribution of samples according to their obstetrical and gynaecological variables

(N=100)

Sl. No	Menstrual variables	Frequency	Percentage
1.	**Parity**		
	a) 1-2	49	49.0%
	b) 3-4	44	44.0%
	c) >5	7	7.0%
2.	**Mode of delivery**		
	a) Normal	83	83.0%
	b) LSCS	14	14.0%
	c) Instrumental	3	3.0%
3.	**Place of delivery**		
	a) Home	52	52.0%
	b) Hospital	48	48.0%

Table 3 continued .....

Sl. No	Menstrual variables	Frequency	Percentage
4.	**Number of Abortion**		
	a) 1	22	22.0%
	b) 2	15	15.0%
	c) 3	5	5.0%
	a) None	58	58.0%
5.	**Types of Contraception**		
	a) Temporary	15	15.0%
	b) Permanent	46	46.0%
	c) None	39	39.0%
6.	**Presence of Vaginal discharge**		
	a) Yes	100	100.0%
	b) No	0	0%
7.	**Colour of discharge**		
	a) Whitish cheesy	16	16.0%
	b) Watery	56	56.0%
	c) Yellow	28	28.0%
	d) Green	0	0%s
8.	**Amount of Discharge**		
	a) Mild	39	39.0%
	b) Moderate	32	32.0%
	c) Excessive	29	29.0%

Table 3 continued .....

Sl. No	Menstrual variables	Frequency	Percentage
9.	**Odour of discharge**		
	a) No odour	52	52.0%
	b) Offensive	48	48.0%
10.	**Presence of dyspareunia**		
	a) Yes	36	36.0%
	b) No	64	64.0%
11.	**Post coital bleeding**		
	a) Yes	10	10.0%
	b) No	19	19.0%
12.	**Presence of pruritus vulvae**		
	a) Yes	38	38.0%
	b) No	62	62.0%

Data presented on Table 3 shows that 49 % of samples had 1-2 parity, 44% of sample had 3-4 parity and 7% of samples had more than 5 parity. Regarding to mode of deliveries 83 % of samples had normal delivery, 14% of samples undergone LSCS and 3 % of samples undergone instrumental delivery. With regards to place of delivery 52 % of samples delivered in home and 48 % of samples delivered in hospital. Regarding the number of abortion 22 % of samples had 1 abortion, 15 % of samples had 2 abortions and 5 % of samples had 3 abortions.

Regarding the type of contraception 15 % of samples used temporary method 46 % of samples used permanent method and 39 % of samples used none of these. With regard to presence of vaginal discharge (100 %) all the samples had the complaints of vaginal discharge. Regarding the colour of discharge 16% of samples complaints of white cheesy colour, 56 % of sample complaints of watery and 28% of sample complaints of yellowish discharge.

With regards to amount of discharge 39 % of samples had mild discharge, 32 % of sample add moderate discharge 29 % of samples had excessive discharge. Regarding the odour of discharge 52 % of samples had no odour of discharge and 48% of samples complaints of offensive discharge. Regarding the presence of dyspareunia 36 % of samples complaints of dyspareunia. Regarding the post coital bleeding 10 % of samples had post coital bleeding. With regard to presence of pruritus vulvae 38 % of samples had the complaints of pruritus vulvae.

The above findings are represented as Bar diagram in 20,21,23,24,25 and Pie diagram in 22,26,27,28,29,30,31

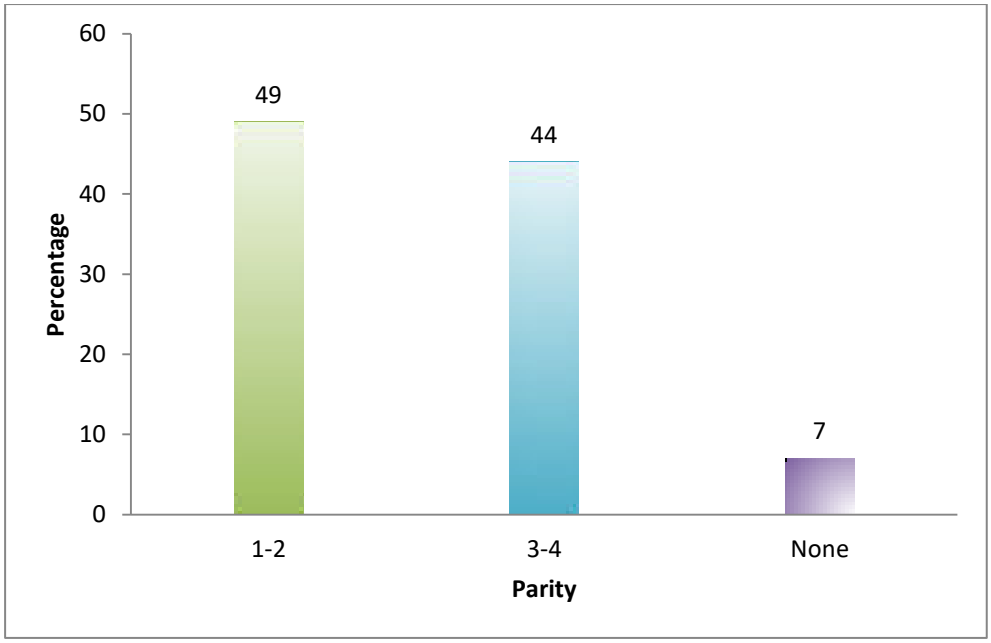


Figure 20: Distribution of Obstetric and Gynaecological Variable According to Parity.

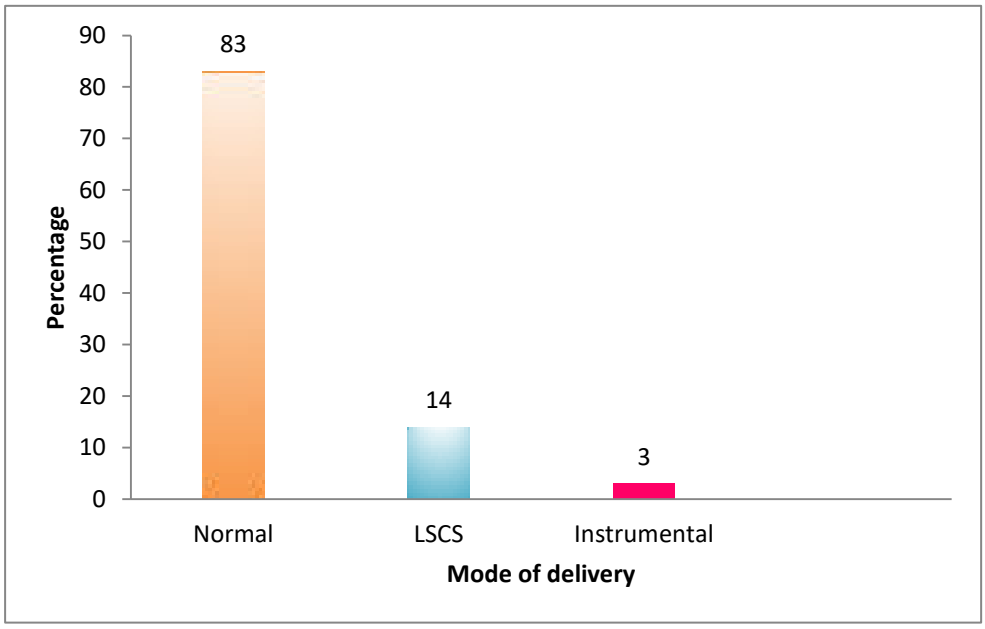


Figure 21: Distribution of Obstetric and Gynaecological Variable According to Mode of Delivery.

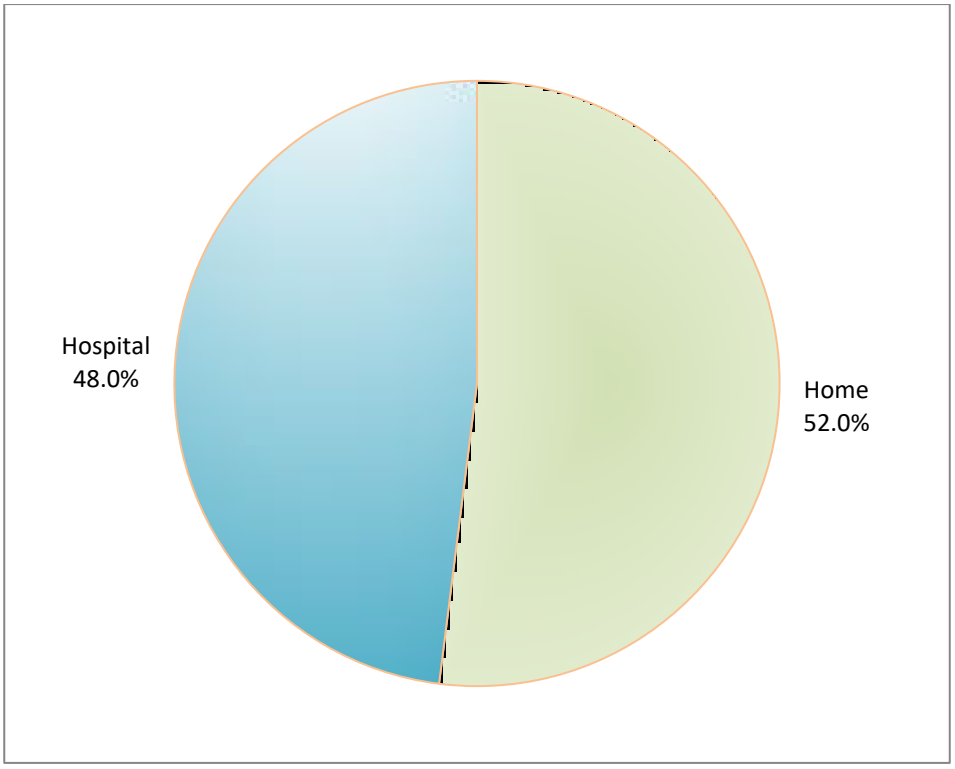


Figure 22: Distribution of Obstetric and Gynaecological Variable According to Place of Delivery.

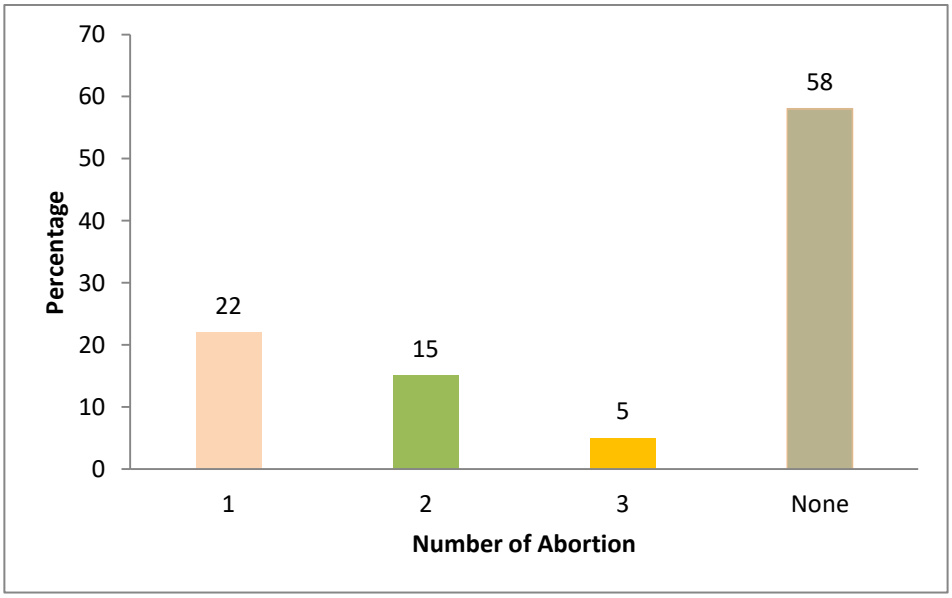


Figure 23: Distribution of Obstetric and Gynaecological Variable According to Number of Abortion.

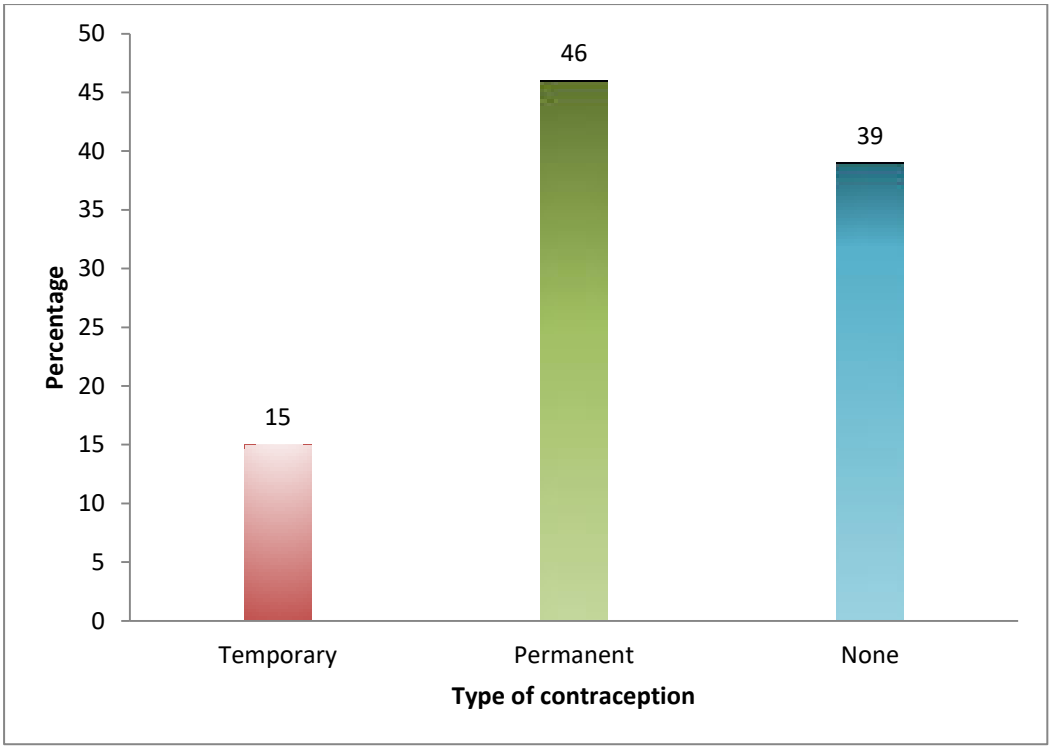


Figure 24: Distribution of Obstetric And Gynaecological Variable According to Type of Contraception.

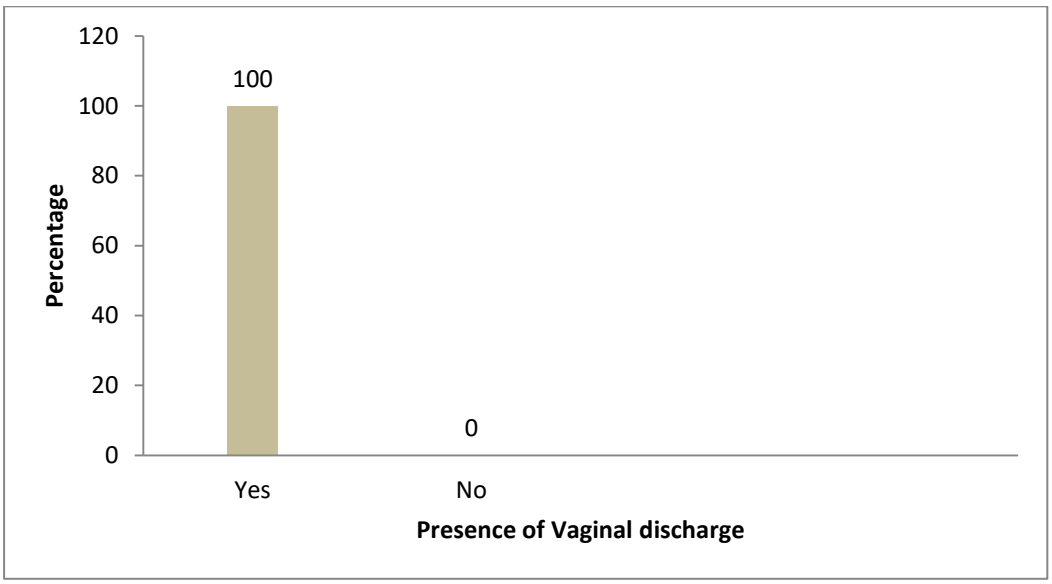


Figure 25: Distribution of Obstetric and Gynaecological Variable According to Presence of Vaginal Discharge.

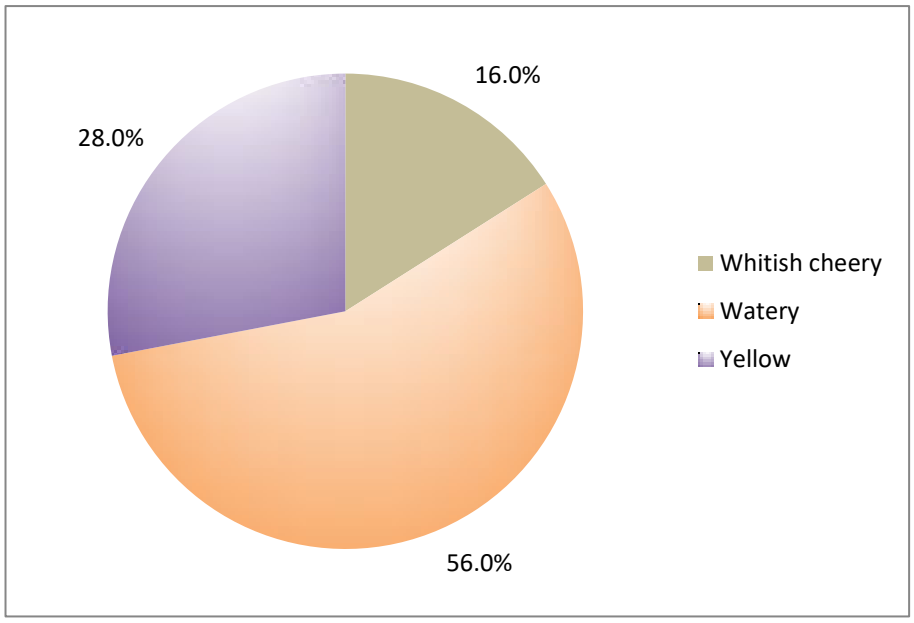


Figure 26: Distribution of Obstetric and Gynaecological Variable According to Colour of Discharge.

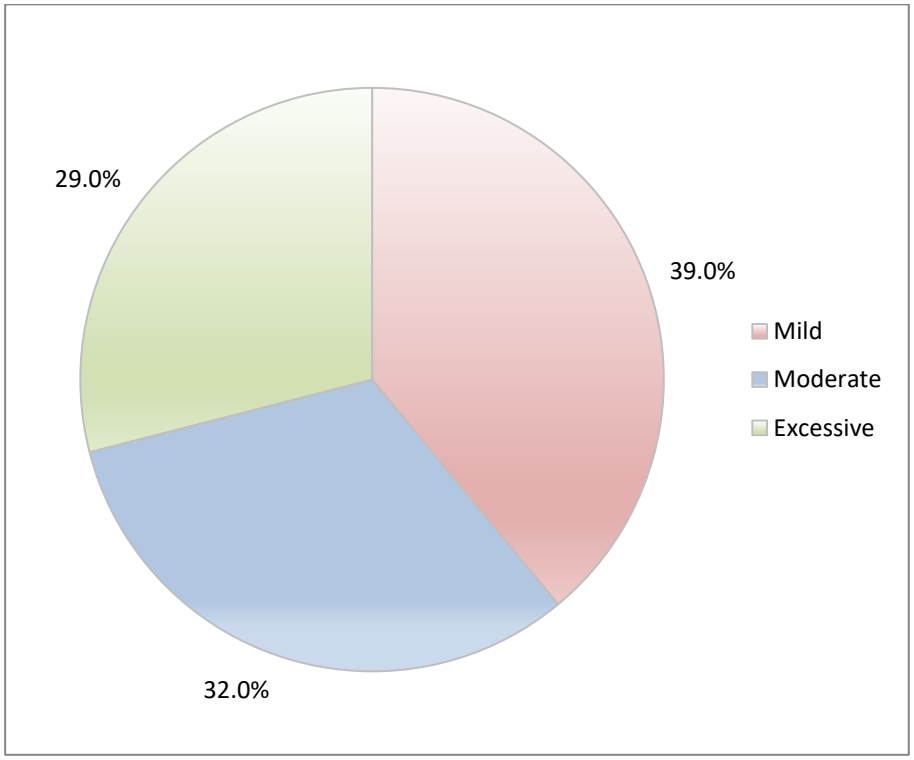


Figure 27: Distribution of Obstetric and Gynaecological Variable According to Amount Of Discharge.

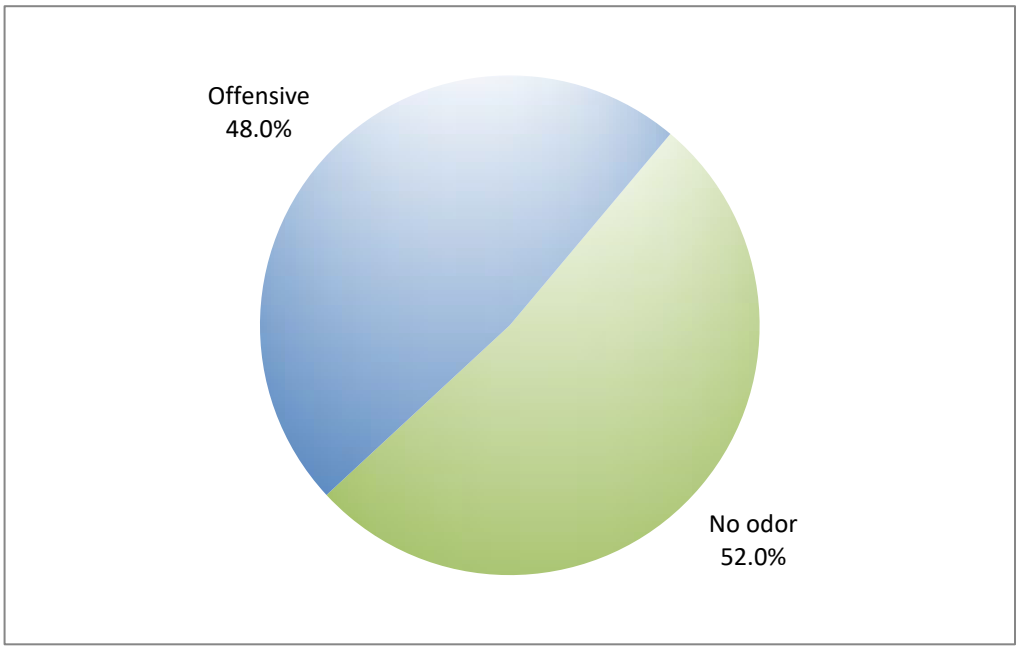


Figure 28: Distribution of Obstetric and Gynaecological Variable According to Odour of Discharge.

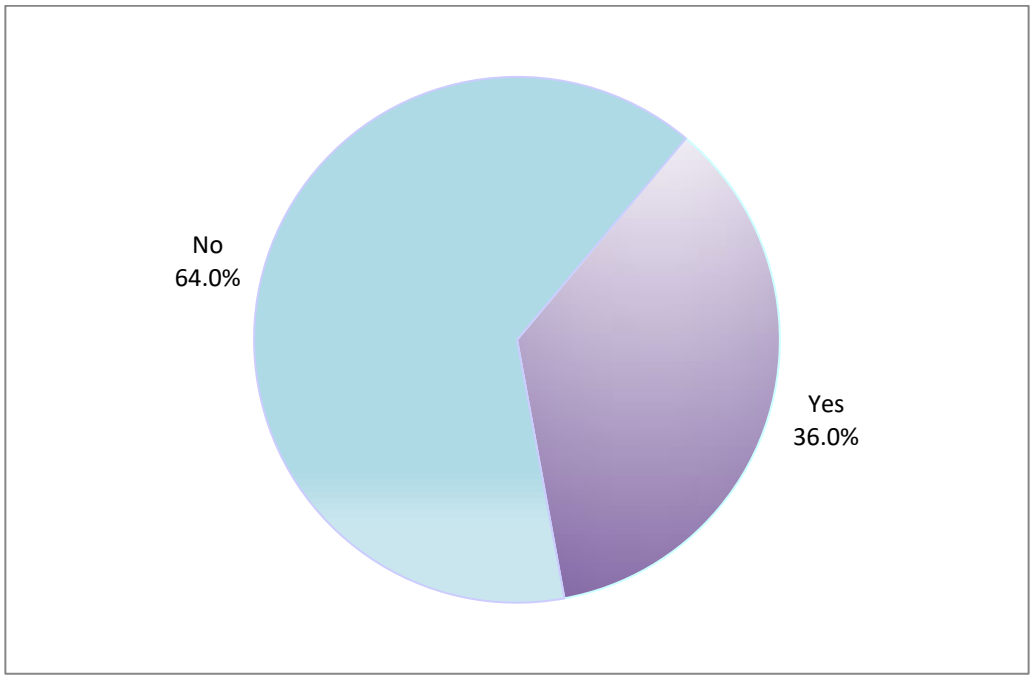


Figure 29: Distribution of Obstetric And Gynaecological Variable According to Presence of Dyspareunia.

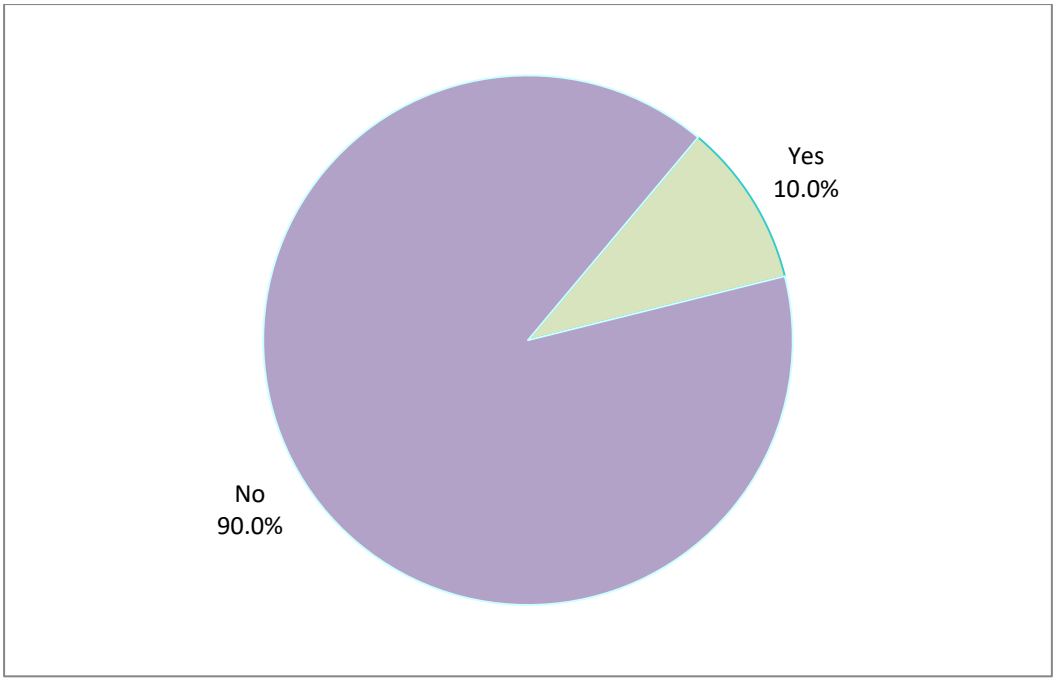


Figure 30: Distribution of Obstetric and Gynaecological Variable According to Post Coital Bleeding.

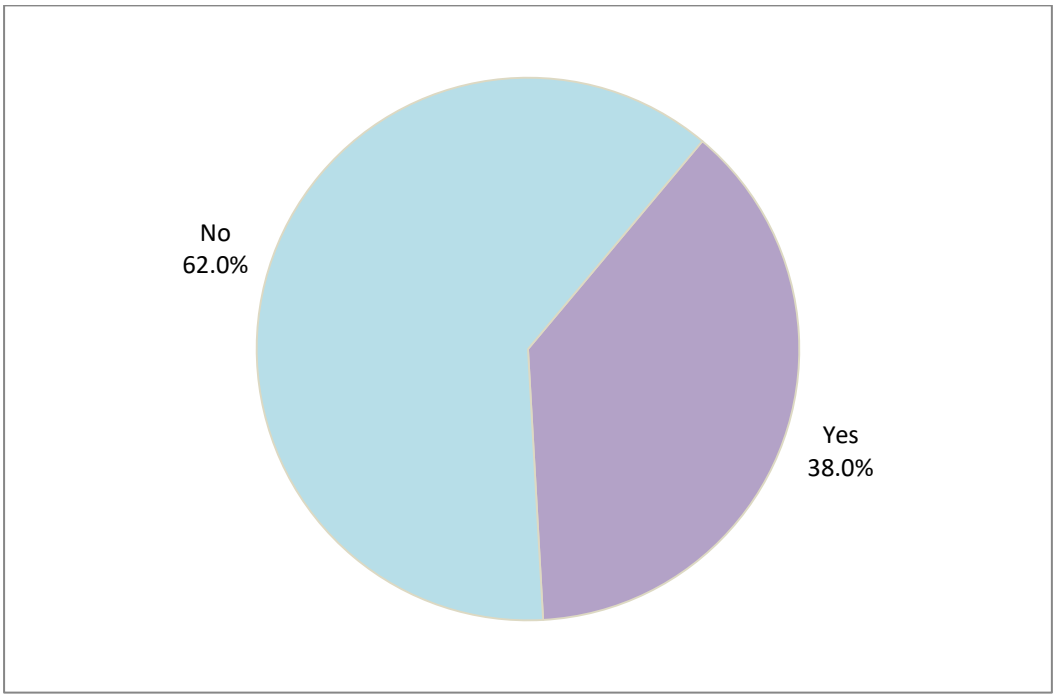


Figure 31: Distribution of Obstetric and Gynaecological Variable According to Presence of Pruritus Vulvae.

Section D:

This section deals with the prevalence of cervical cancer among women (30 – 50 years).

Table 4:

Prevalence of cervical cancer among women by using (VIA/VILI TEST)

Sl. No	Cervical Cancer-VIA/VILI findings	Frequency	Percentage
1	Positive	4	4.0%
2	Negative	96	96.0%
	Total	100	100 %

Data presented on Table 4 shows that 4% of samples were detected with positive case of cervical cancer and 96 % of samples were detected as negative case by using VIA/VILI method.

The above findings are represented as Pie diagram in 32.

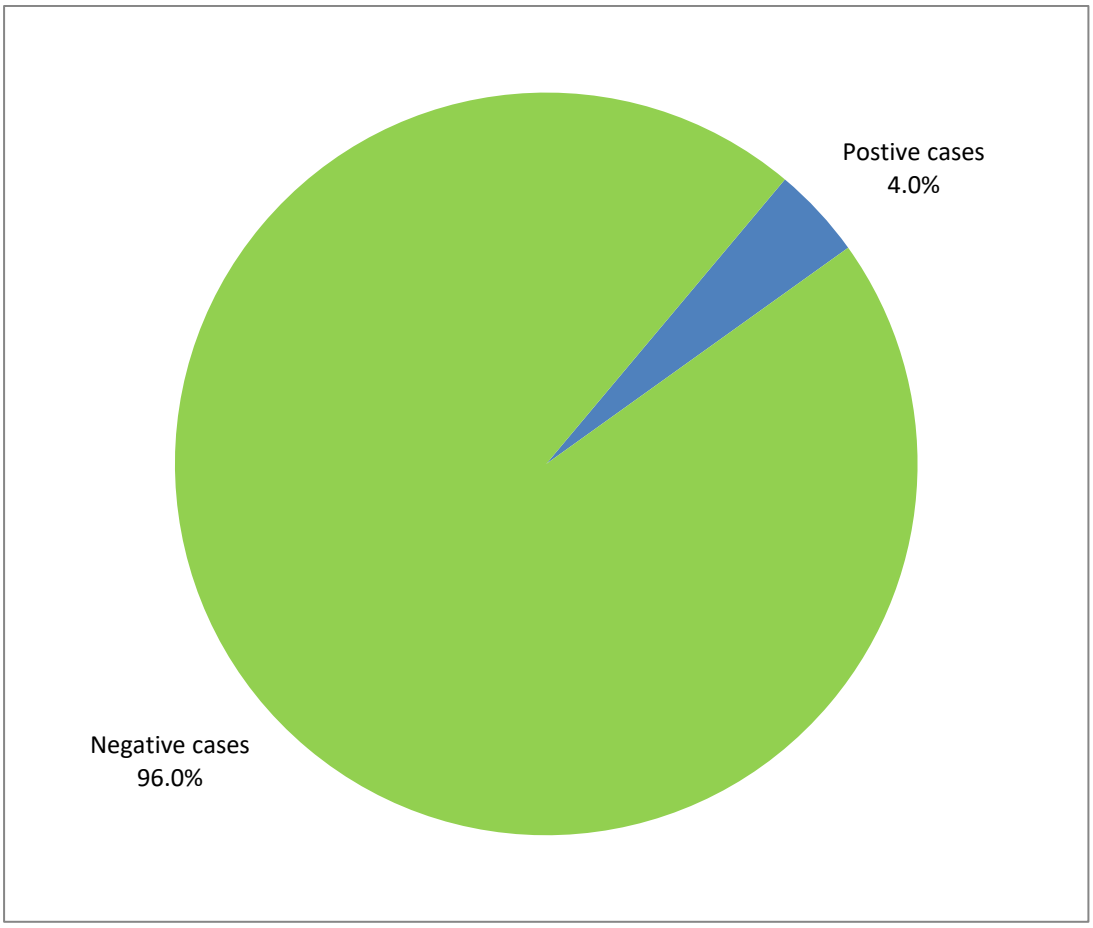


Figure 32: Represents the Prevalence of Cervical Cancer Among Women (30- 50 years) By using VIA/VILI Method.

Section E:

This section deals with the association between prevalence of cervical cancer among women with their selected demographic, menstrual, obstetric and gynaecological variables.

Table 5:

Association between prevalence of cervical cancer among women with their selected demographic, menstrual, obstetric and gynaecological variables.

(N=100)

Variables	Cervical Cancer				χ^2	df	Table value	Test of significant
	Present		Absent					
	f	%	f	%				
Age in Years								
30-35	0	0	20	20.8				
36-40	0	0	22	22.9	3.052	3	0.384	P<0.05
41-45	2	50	25	26.0				
>45	2	50	29	30.2				

Educational Level								
Illiterate	4	100	68	70.8				
Primary	0	0	26	27.1	1.620	3	0.655	P<0.05
Secondary	0	0	1	1				
Higher secondary	0	0	1	1				
Occupation of Women								
House wife	1	25	64	66.7				
Coolie	3	75	31	32.3	3.127	2	0.209	P<0.05
Private employee	0	0	1	1				
Occupation of Husband								
Coolie	4	100	93	96.9	0.00	1	1.00	P>0.05
Private employee	0	0	3	3.1				
Age at Marriage in years								
<20	4	100	51	53.1				
21-25	0	0	41	42.7	3.409	2	0.182	P<0.05
26-30	0	0	4	4.2				
Duration of Marriage								
5-10 years	0	0	18	18.8	0.085	1	0.770	P>0.05
>10 years	4	100	78	81.3				

Husband's Social Habits								
Smoking	0	0	29	30.2				
Drinking	3	75	59	61.5	2.507	2	0.285	P<0.05
Tobaco use	1	25	8	8.3				
Previous knowledge of VIA/VILI								
Yes	0	0	12	12.5	0.00	1	1.00	P>0.05
No	4	100	84	87.5				
Age at Menarche in Years								
10-12	1	25	26	27.1				
13-15	3	75	59	61.5	0.578	2	0.749	P>0.05
16-18	0	0	11	11.5				
Pattern of Menstrual cycle								
Regular	3	75	68	70.8	0.00	1	1.00	P>0.05
Irregular	1	25	28	29.2				
Duration of Menstrual flow								
<3 days	1	25	30	31.3				
4-5 days	3	75	48	50.0	1.269	2	0.530	P<0.05
>5 days	0	0	18	18.8				

Period of the Menstrual cycle								
<21 days	0	0	6	6.3				
21-35 days	3	75	72	75.0	0.329	2	0.848	P>0.05
>35 days	1	25	18	18.8				
Presence of Menorrhagia								
Yes	1	25	25	26	0.00	1	1.00	P>0.05
No	3	75	71	74				
Presence of Dysmenorrhea								
Yes	4	100	47	49	2.221	1	0.136	P<0.05
No	0	0	49	51				
Presence of Metrorrhagia								
Yes	0	0	11	11.5	0.00	1	1.00	P>0.05
No	4	100	85	88.5				
Parity								
1-2	1	25	48	50.0				
3-4	2	50	42	43.8	2.452	2	0.293	P<0.05
None	1	25	6	6.3				
Mode of Delivery								
Normal	4	100	79	82.3				
LSCS	0	0	14	14.6	0.853	2	0.653	P<0.05
Instrumental	0	0	3	3.1				

Place of Delivery								
Home	3	75	49	51	0.184	1	0.668	P>0.05
Hospital	1	25	47	49				
Number of Abortion								
1	1	25	21	21.9				
2	1	25	14	14.6	0.549	3	0.908	P>0.05
3	0	0	5	5.2				
None	2	50	56	58.3				
Types of Contraception								
Temporary	0	0	15	15.6				
Permanent	1	25	45	46.9	2.409	2	0.300	P<0.05
None	3	75	36	37.5				
Color of discharge								
Whitish cheery	0	0	16	16.7				
Watery	2	50	54	56.3	1.414	2	0.493	P<0.05
Yellow	2	50	26	27.1				
Amount of Discharge								
Mild	0	0	39	40.6				
Moderate	2	50	30	31.3	2.680	2	0.262	P<0.05
Excessive	2	50	27	28.1				
Odor of discharge								
No odor	0	0	52	54.2	2.605	1	0.107	P<0.05
Offensive	4	100	44	45.8				

Presence of Dyspareunia								
Yes	4	100	32	33.3	4.796	1	0.029	P<0.05
No	0	0	64	66.7				
Post coital bleeding								
Yes	2	50	8	8.3	3.501	1	0.061	P<0.05
No	2	50	88	91.7				
Presence of pruritus vulvae								
Yes	3	75	35	36.5	1.062	1	0.303	P<0.05
No	1	25	61	63.5				

Data presented on Table 5 shows that there was significant association between prevalence of cervical cancer and demographic variables such as age, educational level, occupation of woman, age at marriage, and husband's social habits. There is no association with duration of marriage, previous knowledge of VIA/VILI and occupation of husband.

There was significant association between prevalence of cervical cancer and menstrual variables such as duration of menstrual flow, presence of dysmenoorhea, and there is no association regarding age at menarche, type of menstrual cycle, duration of menstrual cycle, presence of menorrhagia and presence of mettorrhagia.

There was significant association between prevalence of cervical cancer and obstetric + gynaecological variables such as parity, mode of delivery, type of contraception, colour of vaginal discharge, amount of vaginal discharge, odour of vaginal discharge, presence of dysparaunia, post coital bleeding and presence of pruritus vulvae and there is no association with number of abortion and place of delivery.

Section F:

This section deals with the frequency and percentage distribution of risk factors for cervical cancer among the respondents.

Table No: 6

Frequency and percentage distribution of risk factors for cervical cancer among the respondents

Sl.No	Risk factors	Frequency	Percentage
1.	Age (41-50)	58	58%
2.	Early marriage	55	55%
3.	Multi parity	51	51%
4.	Low Income	100	100%
5.	No pap test/ HPV vaccine	100	100%
6.	Family History	0	0%
7.	Dietary history	0	0%

Data presented on table 6 shows that 58% of samples were in the age group of 42-50 years, 55 % of samples got married at early age before 20 years, 51 % of samples were in multi parity group, 100% of sample were under low income category and 100% of samples not screened with pap test and taken HPV vaccine which represents the majority of the samples in the present study were under the risk factors for cervical cancer.

CHAPTER : V

RESULTS AND DISCUSSION

The present study was undertaken to assess the prevalence of cervical cancer among women (30-50 years) in selected village of Kanyakumari District. The prevalence is assessed by using VIA/VILI method. The result and discussion of the study are based on the findings obtained from the statistical analysis.

Characteristic of the study subjects:

As per the demographic characteristics majority of positive cases (100%) were under the age group of 41-50 years and in the negative cases majority of them (30.2%) were under more than 45 years. Regarding education level 100% of positive cases were illiterate and 70.8% of the negative cases were illiterate with regards to occupation of women 75% of positive cases were coolie workers and 66.7% of negative cases were house wife. While considering occupation of husband 100% of them were coolie workers in positive cases and 96.9% were coolie workers in negative cases.

With regards to age at marriage, 100% of positive cases were married before 20 years and 53.1% of negative cases married below 20 years. Regarding duration of marriage 100% of positive cases were more than 10 years and 81.3% of negative cases were more than 10 years. Regarding husband's social habits 75% of the positive cases had habit of drinking alcohol and 61.5% of the negative cases also had same habits. Majority 100% of positive cases had no previous knowledge of VIA/VILI and 87.5% of negative cases had no previous knowledge of VIA/VILI.

As per the menstrual characteristics 75% of positive cases attained menarche at the age group between 13-15 years and 61.5% of negative cases attained menarche at the age of 13-15 years. Regarding the pattern of menstrual cycle 75% of positive cases were in regular and 70.8% of negative cases were in irregular history. With regards to duration of menstrual flow 75% of positive cases had 4-5 days and 50.0% of negative cases had 4-5 days of duration.

Regarding the period of menstrual cycle 75% of positive cases had 21-35 days cycle and 75.0% negative cases had 21-35 days cycle. Majority (75%) of positive cases had no complaints of menorrhagia and 74% of negative cases also had no complaints of menorrhagia. With regards to presence of dysmenorrhea 100% of positive cases had the complaints and 51% of the negative cases also had no complaints. Majority of the positive cases (100%) had no complaints of metrorrhagia and 88.5% of the negative cases had no complaints of metrorrhagia.

As per the Obstetrical and Gynaecological characteristics majority 50% of positive cases had 3-4 children and 50% of negative cases had 1-2 children. With regards to mode of delivery 100% of the positive cases had the history of normal delivery and 82.3% of negative cases had history of normal delivery. Regarding place of delivery 75% of positive cases delivered at home and 49% of negative cases delivered at home only. Regarding the number of abortion 50% of positive cases had no history of abortion and 58.3% of negative cases had no history of abortion. With regards to type of contraception 75% of the positive cases not used any method and 46.9% of negative cases used permanent method.

Regarding the color of discharge 50% of positive cases had the complaints of watery discharge, 50% of cases had yellowish discharge and 56.3% of negative cases

had complaints of watery discharge. With regards to amount of discharge 50% of positive cases had moderate discharge, 50% of positive cases had excessive discharge and 40.6% of negative cases had mild discharge. Regarding the odor of discharge 100% of positive cases complaints of offensive discharge and 54.2% had complaints of no odor. Regarding presence of dyspareunia, majority 100% of positive cases had complaints of dyspareunia and 66.7% of negative cases had no complaints. With regards to post coital bleeding 50% of positive cases had the complaints and 50% of positive cases had no complaints of post coital bleeding and 91.7% of negative cases had no complaints of post coital bleeding. Regarding the presence of pruritus vulvae 75% had the complaints and 63.5% had no complaints of pruritus vulvae.

Objectives of the study:

- To assess the prevalence of cervical cancer among women (30-50 years)
- To find out the association between prevalence of cervical cancer among women (30-50 years) with their selected demographic, menstrual, obstetric and Gynaecological variables.
- To find out the risk factors of cervical cancer among respondents.

The first objectives of the study is to assess the prevalence of cervical cancer among women (30-50 years)

The study finding shows that out of 100 samples. 4% of the samples were detected with positive case of cervical cancer and 96% of samples were detected as negative case by using VIA/VILI method.

The study finding is congruent with study conducted by K.A Durowadeet, at (2013). The result shows that only 10 (5.0%) respondents had positive findings while the rest 190 (95.0%) samples were negative. The present findings also supported by the study conducted by Ami Mehta et. al., (2010). The study concluded that 8 (16%) of respondents are positive and 42 (84%) of respondents are negative result. So the researcher concluded that VIA/VILI method is effective in detecting cervical cancer in resource poor setting area.

The second objective of the study is to find out the association between prevalence of cervical cancer among women (30-50 years) with their selected demographic, menstrual, obstetric and Gynaecological variables.

The study findings shows that there is a significant association between prevalence of cervical cancer with their demographic variables such as age, education, occupation of women, age at marriage, husband's social habits significant at $P<0.05$. There is no association with occupation of husband, duration of marriage and previous knowledge of VIA/VILI at $P>0.05$.

The current study shows that there is a significant association between prevalence of cervical cancer with their menstrual variables at $P<0.05$ such as duration of menstrual flow, presence of Dysmenorrhea and not significant at $P>0.05$ such as age at menarche, pattern of menstrual cycle, period of menstrual cycle and presence of menorrhagia.

In this study there is significant association between prevalence of cervical cancer with their selected Obstetrical and Gynaecological variables at $P<0.05$ such as parity, mode of delivery, type of contraception, color of discharge, amount of discharge, presence of dyspareunia, post coital bleeding and presence of pruritus

vulvae and not significant at P>0.05 such as place of delivery and number of abortion. (the study finding concluded that the hypothesis was partially accepted).

The study findings is congruent with study conducted by Doaa M. Sheeshaet. al., concluded that there was significant association with types of contraception use, high parity, post coital bleeding and no association with education level, occupation, residence, age, husband's social habit.

To find the risk factors of cervical cancer among the respondents.

In the current study shows that 58% of samples were in the age group of 42-50 years, 55% of samples got married at early age before 20 years, 51% of samples were in multiparity, 100% of samples were under low income category and 100% of samples not screened with PAP test and taken HPV vaccine.

The study finding is congruent with study conducted by K.A Durowadeet all, conclude that the risk factors of cervical cancer find in the respondents were, age in years, age at marriage, multiparity, number of sexual partner, duration of contraception use, socio economic status and family history. So the investigator concludes that majority of the current study respondents were at risk of cervical cancer in future.

Outcome of the study:

In the present study, out of 100 samples 4 women were detected with positive case and 96 women were negative case of cervical cancer. The investigator guided the 4 positive cases towards the treatment modalities as per primary health centre. Protocol and the cases were registered in the Pecheiparai PHC statistical data. From the PHC, the cases were referred to Thuckalay referral hospital and the investigator assured that the positive cases are in follow up care. The investigator provided awareness for the remaining 96 negative cases regarding prevention of cervical cancer, hence majority of the samples are under risk factor as per present study finding.

CHAPTER : VI

SUMMARY, CONCLUSION, NURSING IMPLICATION, LIMITATION AND RECOMMENDATION.

This chapter deals with summary, conclusion, nursing implication, limitation and recommendation.

Summary of the study:

The study was undertaken to assess the prevalence of cervical cancer among women (30-50 years) with VIA/VILI method in selected village of Kanyakumari District.

Objectives of the study:

- To assess the prevalence of cervical cancer among women (30-50 years).
- To find out the association between prevalence of cervical cancer among women (30-50 years) with their selected demographic, menstrual, obstetric and Gynaecological variables.
- To find out the risk factors of cervical cancer among the respondents.

Hypothesis:

There will be a significant association between prevalence of cervical cancer among women and their selected demographic, menstrual, obstetrical and Gynaecological variables.

The researcher adopted the quantitative survey approach with descriptive research design. The study was done with 100 women (30-50 years) in selected village of Kuttiyar in Kanyakumari District. The subjects were selected by non-probability convenient sampling technique and data were collected from 100 samples. Formal permission for data collection was obtained from medical officer of PHC Pecheiparai. According to inclusion and exclusion criteria, screening was done with VIA/VILI test. The collected data were analysed based on descriptive and inferential statistics according to the above mentioned objectives. The modified "Anderson Healthcare Utilization Model" was adopted for assessing the prevalence of cervical cancer; data collection tool were demographic, menstrual, obstetric, gynaecologic data and VIA/VILI test.

Study findings:

The study identified that with total 100 samples, 4% samples were positive result and 96% samples were negative result for cervical cancer; by using VIA/VILI method. It was found that there were significant association found between prevalence of cervical cancer with their selected demographic, menstrual, obstetric and gynaecological variable. The study also concluded that most of the respondents are in risk factors.

Conclusion:

The conclusion drawn from the findings of the study are as follows;

The findings of the present study reveals thatVIA/VILI is an accurate and effective method for evaluating of cervical cancer. It is the easiest method, needless equipment and less training. VIA/VILI can be taught to nurses health workers and paramedical

staff. Requires a training of 5-14 days only. So it can be used effectively in hospital as well as in community setup. VIA/VILI are the acceptable test in low resource settings be implemented as a large scale screening method.

Nursing Implication

VIA/VILI is relatively simple, no specialized skills are required. It can be taught to nurses, health workers and paramedical staff. Requires a training of 5-14 days only. So it can be used even at rural hospitals, in camps at periphery for screening.

The findings of the study has considerable implications on nursing administration, nursing education, nursing practice and nursing research.

Nursing administration:

1. Nurse administrator can take steps to conduct training classes regarding VIA/VILI screening method.

2. The nurse administrator can act as a charge agent in utilizing the research findings.

3. The study helps the nurse administrator to assess the knowledge of nurse regarding VIA/VILI test for early detection of cervical cancer.

4. The nurse administrator can arrange camps in low resource setting to detect cervical cancer as community based approach

Nursing education:

1. This study can motivate student nurse to explore new strategies for cervical cancer detection

2. The nurse educator can train and encourage the student nurse to implement the VIA/VILI method.

3. The nurse educator can arrange more theory classes regarding VIA/VILI method.

4. This study can be included in the assessment part of PG students.

5. In-service education can be conducted in the nursing and other colleges regarding VIA/VILI method.

Nursing practice:

1. VIA/VILI is relatively simple and effective screening method for in and out patients.

2. VIA is less costly than other screening test in routine use and minimal infrastructure is required. So it is acceptable in community health nursing practice.

3. The nurse can apply this practice in clinical settings.

Nursing research:

The research implication of the study lies in the scope for expanding the quality of nursing services. In this era of evidenced based practice, publication of these studies will take nursing to a new horizon.

Research can be conducted regarding;

- Knowledge and practice of screening for cervical cancer among women.
- Current knowledge regarding cervical cancer screening among nursing students.
- Attitudes towards cervical cancer screening among women.
- Awareness of cervical cancer screening among women regarding VIA/VILI method

Limitations:

The present study has some limitations.

- The sample size was only 100, hence generalization is not possible.
- Data collection period was only one month
- Hence the literacy level of samples were poor, time consuming for completing each sample.

Recommendations:

Based on the study results of the present study, the following is recommended.

- The study may be replicated with randomization in selection of a large sample.
- The study findings help to do various studies related to find out the prevalence of cervical cancer in resource poor settings.
- The nurse researcher can conduct other research studies based on the research evidence from this study.
- The nurse researcher can conduct studies to find out the knowledge and practice of VIA/VILI method among women
- A comparative study can be done to determine the effectiveness of VIA/VILI with other screening method to detect cervical cancer.

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APPENDIX : A

ETHICAL CLEARANCE CERTIFICATE

SREE MOOKAMBIKA COLLEGE OF NURSING
(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.
PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161
Phone : 04651 - 280743, 280866, 280742, 280745

ETHICAL COMMITTEE CLEARANCE

Date :.....
Lr. No. 16-08-2016

To

Mrs. Prasanna. M,

I YR .M.Sc (N),

Sree Mookambika College of Nursing,

Kulasekharam.

Ref: Research Topic: "A descriptive study to assess the prevalence of cervical cancer among women in selected village of Kanyakumari District".

Sub: Approval of the above reference study .

Dear Prasanna. M,

Ethics committee of Sree Mookambika College of Nursing, Kulasekharam reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study in the meeting held on 16-08-2016.

The following ethical committee Members were present at the meeting held on 16-08-2016.

NAME	PROFESSION	POSITION IN THE COMMITTEE
Prof. Mrs. Santhi Letha	Nursing	Chair Person
Dr. Kani Raj Peter	Medical	Basic Medical Scientist
Dr. T.C. Suguna	Nursing	Clinician
Adv. Mohanan	Legal	Legal Expert
Prof. Mrs.Ajitha Retnam	Nursing	Member secretary
Dr.P. Selva Raj	Management	Philosopher
Mr. Natarajan	Social	Medical Social Worker
Mrs. Latha	Lay Person	Community Person

After due ethical and scientific consideration, the ethics committee has approved the above presentation submitted by you.

Regards.

PRINCIPAL
Sree Mookambika College of Nursing

Mrs. Santhi Letha PhD (N)
Ethics Committee Chairperson,
Sree Mookambika College of Nursing,
V.P.M. Complex, Padanilam, Kulasekharam.

Date : 16-08-2016
Place :Kulasekharam

APPENDIX : B

LETTER SEEKING EXPERTS OPINION FOR TOOL VALIDITY

SREE MOOKAMBIKA COLLEGE OF NURSING
(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.
PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161
Phone : 04651 - 280743, 280866, 280742, 280745

Date :.....
Lr. No.

LETTER SEEKING EXPERT OPINION FOR TOOL VALIDITY

To

Madam/Sir

Sub : M.Sc Nursing Programme dissertation – Validation of study tool request – reg:

Ms/Mrs. **Prasanna. M** a bonafide if II Year M.Sc Nursing student of Sree Mookambika College of Nursing is approaching you to obtain validation of study tool pertaining to her dissertation in practical fulfillment of the requirement for the degree of Master of Science in Nursing. The selected topics "**A descriptive study to assess the prevalence of cervical cancer among women in selected village of Kanyakumari District".** In this regard I request you to kindly extent possible technical guidance and support for successful completion of dissertation.

I enclosed here with a check list for your evaluation.

Thanking You

Yours Sincerely

PRINCIPAL

APPENDIX : C

CERTIFICATE OF VIA / VILI TRAINING

Certificate

This is to certify that Mrs.M.Prasanna II yrMsc (Nursing) student from SreeMookambika College of Nursing Kulasekharam has undergone Rural VIA-VILI training in our Primary Health Centre Pechiparai , Specially in Kuttiyar village from 17/12/2016 to 21/12/2016.

Dr. A. [illegible], M.B.B.S
Asst. Surgeon
Govt. Primary Health Centre
Pechiparai
Reg No: 84822

Signed by Medical Officer

APPENDIX : D

LIST OF EXPERTS FOR VALIDATION

1. **Prof. Asha .K.V, M.Sc.,(N)**
   Assistant Professor.
   Government College of Nursing,
   Thiruvananthapuram.

2. **Prof. Mrs.Arzta Sophia M.Sc.,(N),**
   Associate professor,
   Obstetrics and Gynacological Nursing,
   C.S.I College of Nursing,
   Neyyoor.

3. **Prof. Mrs. TarsisHenita H.J. M.Sc., (N),**
   HOD, Obstetrics and Gynaecological Nursing,
   C.S.I, College of Nursing,
   Karakonam, Trivandrum.

4. **Mrs. Archana C.K. M.Sc.,(N),**
   Assistant Professor,
   SreeGokulam Nursing College,
   Trivandrum.

5. **Prof. Mrs. Shanthi, M.Sc., (N)**
   HOD, Obstetrics and Gynaecological Nursing,
   CSI Jeyaraj Annapackiam College of Nursing,
   Madurai.

APPENDIX : E

DATA COLLECTION TOOL

Section A

Demographic variables

1. Age in years
    a) 30 - 35
    b) 36 – 40
    c) 41 – 45
    d) > 45

2. Educational level
    a) Illiterate
    b) Primary school education
    c) Secondary school education
    d) Collegiate education

3. Occupation of women
    a) Housewife
    b) Private employee
    c) Government employee

4. Occupation of Husband
    a) Coolie
    b) Private employee
    c) Government employee

5. Residence
    a) Urban
    b) Rural

6. Age at Marriage in years
    a) < 20
    b) 21 – 25
    c) 26 – 30
    d) > 30

7. Duration of Marriage
    a) < 5 years
    b) 5 -10 years
    c) > 10 years

8. Husband'ssocial habits
    a) Smoking
    b) Drinking
    c) Tobacco use
    d) None

9. Family monthly income
    a) Rs. < 20,000
    b) Rs. 21,000 – 30,000
    c) Rs. > 30,000

10. Previous knowledge of VIA/VILI
    a. Yes
    b. No

SECTION – B

Menstrual variables

1. Age at menarche in years
    a) 10 – 12
    b) 13 – 15
    c) 16 – 18
    d) > 19

2. Patterns of menstrual cycle
    a) Regular
    b) Irregular

3. Duration of menstrual flow
    a) < 3 days
    b) 4 -5 days
    c) > 5 days

4. Period of menstrual cycle
    a) < 21 days
    b) 21 -35 days
    c) > 35 days

5. Presence of Menorrhagia
    a) Yes
    b) No

6. Presence of Dysmenorrhea
    a) Yes
    b) No
7. Presence of metrorrhagia
    a) Yes
    b) No

SECTION – C

Obstetric and Gynaecological variables

1. Parity
    a) 1 – 2
    b) 3 – 4
    c) > 5

2. Mode of deliveries
    a) Normal
    b) LSCS
    c) Instrumental

3. Place of delivery
    a) Home
    b) Hospital

4. Number of Abortion
    a) 1
    b) 2
    c) 3
    d) None

5. Types of Contraception
    a) Temporary
    b) Permanent
    c) None

6. Presence of Vaginal discharge
    a) Yes
    b) No

7. Color of discharge
    a) Whitish cheesy
    b) Watery
    c) Yellow
    d) Green

10. Amount of discharge
    a) Mild
    b) Moderate
    c) Excessive

11. Odor of discharge
    a) No odor
    b) Offensive

12. Presence of dyspareunia
    a) Yes
    b) No

13. Post coital bleeding
    a) Yes
    b) No

14. Presence of pruritus vulvae
    a) Yes
    b) No

APPENDIX : F

EVALUATION TOOL CHECK LIST

Name of the expert:

Designation:

College:

Respected Madam/Sir,

Kindly go through the content and place the (√) marks against the check list in the following columns ranking from relevant. Whatever there is a need for modification, kindly give your opinion in the remarks column.

Date: Signature

SECTION A

DEMOGRAPHIC VARIABLES

Item No	Relevant	Needs modification	Not relevant	Remarks

SECTION B

MENSTRUAL VARIABLES

Item No	Relevant	Needs modification	Not relevant	Remarks

SECTION C

OBSTETRIC AND GYNAECOLOGICAL VARIABLES

Item No	Relevant	Needs modification	Not relevant	Remarks

APPENDIX : G

DATA COLLECTION PROCEDURE.

Data Collection Procedure:

- ✓ Data were collected from the samples of selectedKuttiyar village which were chosen according to the inclusion and exclusion criteria.
- ✓ The researcher introduced herself to women and the aim of the study was explained prior to their participation to obtain their acceptance and co-operation as verbal consent.
- ✓ The researcher clarified each item of the data collection tool and explained its meaning to the samples. Samples were allowed to ask for any interpretation, elaboration or explanation.
- ✓ The data were collected for 3 days/week(from 01.02.2017 to 04.03.2017).
- ✓ By using the predetermined criteria positive and negative patients were segregated and positive cases were referred to the specialist for further assessment and management.

Materials required for VIA/VILI screening test:

To find out the presence of cervical cancer using direct visual inspection method (VIA/VILI), the researcher prepared the required materials such as;

- Sterile gloves
- Sterile cusco's speculum of different standard sizes
- Sponge holding forceps
- Sterile swabs
- Normal saline
- Lugol's Iodine solution
- Acetic acid 3-5%
- Light source
- Examination table and Mask

Steps for Application of VIA/VILI Test:

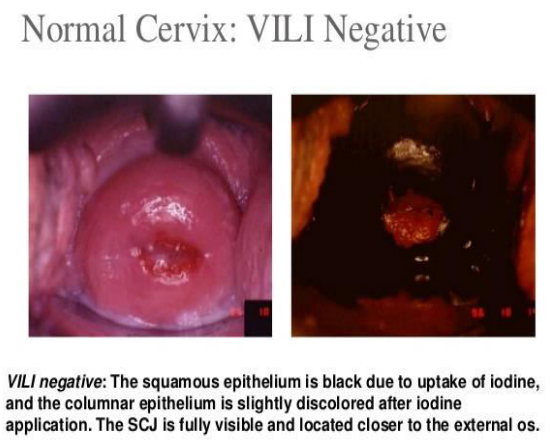
- Explained the procedure, taken verbal consent, privacy provided.
- Patients were asked to lie down in lithotomy position.
- Unaided visual inspection of cervix was first performed under good illumination and findings noted.
- Cervix was cleaned with sterile cotton swab, and then it was painted with 3-5% acetic acid solution using a sterile cotton swab.
- Cervix was inspected after one minute and changes in the surface epithelium were noted.
- The cervix was cleaned with normal saline sterile swab.
- Next appliedLugol's iodine on the cervix as the second step of procedure and cervix was inspected for the changes in the surface epithelium.

Result of VIA Test:

Positive	**Negative**
Criteria: • Acetowhitening • Rapid intake of acetic acid • Slow loss of acetowhitening • Rough surface of the lesion • Well defined borders of the lesion.	**Criteria:** • No Acetowhitening • Slow intake of acetic acid • Rapid loss of white colour • Smooth surface of the lesion • ill defined borders of the lesion.

VILI Test Result:

Negative	**Positive**
Criteria: • Normal cervix where squamocolumnar junction stains mahogany brown or black and the columnar epithelium does not change colour. • Patchy, indistinct, ill defined, colourless or partially brown areas in transformation zone. • Scattered irregular, ill defined, non-iodine uptake areas, on cervix. • Thin, yellow, non-iodine uptake areas with angular margins, resembling geographical areas located faraway from squamocolumnar junction	**Criteria:** • Well defined, dense, thick bright mustered yellow or saffron yellow, iodine non-uptake areas touching the squamocolumnar junction. • Circumferential, well defined, thick dense, yellow lesion occupying large portion of cervix. • Growth on the cervix turns yellow.



VILI negative: The squamous epithelium is black due to uptake of iodine, and the columnar epithelium is slightly discolored after iodine application. The SCJ is fully visible and located closer to the external os.

Demographic variables										
	Age in years	Educational level	Occupation of women	Occupation of Husband	Residence	Age at Marriage in years	Duration of Marriage	Husband'ssocial habits	Monthly income of family in rupees	Previous knowledge of VIA/VILI
Sl.No	1	2	3	4	5	6	7	8	9	10
1	2	3	1	1	2	2	3	4	1	2
2	3	2	1	1	2	2	3	2	1	2
3	1	4	1	1	2	1	2	4	1	2
4	4	1	1	1	2	2	3	2	1	2
5	4	2	1	1	2	1	3	4	1	2
6	3	2	1	1	2	1	3	1	1	2
7	4	1	1	1	2	1	3	2	1	2
8	4	1	1	1	2	1	3	3	1	2
9	3	1	1	1	2	1	3	2	1	2
10	4	1	1	1	2	2	3	2	1	2
11	4	2	1	1	2	1	3	4	1	2
12	4	1	2	1	2	2	3	1	1	2
13	1	1	1	1	2	2	2	4	1	2
14	2	2	1	1	2	1	3	4	1	2
15	1	1	1	1	2	1	3	2	1	2
16	1	2	1	1	2	1	3	2	1	2
17	3	2	1	1	2	2	3	2	1	2
18	3	1	2	1	2	1	3	2	1	2
19	3	2	2	1	2	2	3	2	1	2
20	1	2	3	1	2	2	2	3	1	2
21	1	1	2	1	2	1	2	2	1	1
22	3	1	2	1	2	1	3	2	1	1
23	1	1	2	1	2	1	3	3	1	2
24	1	1	2	1	2	2	2	2	1	2
25	4	1	1	1	2	1	3	2	1	2
26	2	1	1	1	2	1	3	4	1	2
27	3	1	2	1	2	1	3	2	1	2
28	3	1	1	1	2	2	3	2	1	2
29	2	2	2	1	2	2	2	2	1	2
30	4	1	1	1	2	2	3	2	1	2
31	3	1	1	1	2	1	3	4	1	2
32	3	1	1	1	2	2	3	2	1	2
33	2	1	1	2	2	3	2	4	1	1
34	2	1	2	1	2	2	2	2	1	1
35	3	1	1	1	2	1	3	4	1	2
36	2	1	1	1	2	2	3	2	1	2
37	3	1	1	1	2	2	3	4	1	2
38	3	1	1	1	2	1	3	2	1	2
39	2	1	1	1	2	1	3	2	1	2
40	1	2	2	1	2	2	3	2	1	2
41	4	1	1	1	2	1	3	2	1	2
42	1	2	1	1	2	1	3	2	1	2
43	4	1	1	1	2	1	3	2	1	2
44	1	1	1	1	2	1	3	2	1	2
45	3	1	1	1	2	1	3	2	1	2
46	3	1	1	1	2	1	3	2	1	2
47	1	1	1	1	2	1	3	1	1	2
48	4	1	2	1	2	1	3	2	1	2
49	1	2	2	1	2	2	2	4	1	2
50	1	2	1	1	2	2	2	4	1	1

Menstrual variables							
	Age at menarche in years	Pattern of menstrual cycle	Duration of menstrual flow	Period of menstrual cycle	Presence of Menorrhagia	Presence of Dysmenorrhea	Presence of metrorrhagia
Sl.No	1	2	3	4	5	6	7
1	2	1	2	2	2	1	1
2	3	2	2	2	2	2	2
3	3	1	2	2	2	1	2
4	2	1	1	2	2	2	2
5	3	1	2	2	2	1	2
6	1	1	2	2	2	1	2
7	1	1	2	2	2	1	2
8	1	1	2	2	1	1	2
9	1	1	2	2	2	2	2
10	2	2	2	2	2	1	2
11	2	1	3	2	2	1	2
12	1	2	3	3	1	1	2
13	2	1	2	1	1	1	2
14	2	1	1	2	2	1	2
15	1	1	1	3	1	1	2
16	2	2	3	2	1	1	2
17	2	1	1	1	2	2	2
18	2	1	2	2	2	1	2
19	2	1	1	2	2	1	2
20	2	1	2	2	2	2	2
21	1	1	1	2	2	2	2
22	2	1	1	2	2	2	2
23	2	1	1	2	2	2	2
24	3	2	2	2	2	2	2
25	2	1	2	2	2	2	2
26	3	1	1	2	2	2	2
27	2	2	2	3	2	1	2
28	2	1	1	2	2	2	2
29	3	1	1	2	2	2	2
30	2	2	3	3	2	2	2
31	2	2	1	2	2	2	2
32	2	1	2	2	2	1	2
33	1	1	3	2	2	2	2
34	2	1	1	2	2	2	2
35	2	1	1	2	2	2	1
36	2	1	2	2	2	2	2
37	2	2	3	3	1	1	2
38	2	2	2	3	2	1	2
39	1	2	1	3	2	1	1
40	2	2	1	2	2	2	2
41	1	1	2	2	2	1	2
42	1	2	3	3	1	1	2
43	3	1	2	2	2	2	2
44	2	1	1	2	1	1	1
45	2	2	3	2	2	1	2
46	2	2	2	3	2	2	2
47	2	1	1	2	2	2	2
48	2	1	1	1	3	2	2
49	2	1	1	2	2	2	2
50	2	1	1	2	1	1	2

Obstetric variables					
	Parity	Mode of delivery	Place of delivery	Number of Abortion	Type of Contraception
Sl.No	1	2	3	4	7
1	1	1	2	4	2
2	1	1	2	4	2
3	1	2	2	1	2
4	1	1	2	4	1
5	1	1	2	4	3
6	2	1	1	1	1
7	2	1	1	1	3
8	3	1	1	2	3
9	2	1	1	4	3
10	2	1	1	4	2
11	1	1	2	4	2
12	2	1	1	1	2
13	2	1	1	4	2
14	2	1	2	3	2
15	1	1	1	4	2
16	1	1	2	4	2
17	1	1	2	4	3
18	2	1	1	1	3
19	1	1	2	4	2
20	1	1	2	4	1
21	1	1	2	4	2
22	1	1	1	1	3
23	2	1	1	1	2
24	1	1	2	4	2
25	1	1	2	2	3
26	1	1	1	3	2
27	1	1	2	4	2
28	1	1	2	4	2
29	1	1	2	2	2
30	2	2	1	2	3
31	1	1	1	3	3
32	1	1	2	4	2
33	2	1	2	4	2
34	3	1	1	4	3
35	1	1	1	4	3
36	1	1	2	1	2
37	1	1	2	4	2
38	2	1	1	2	3
39	2	1	1	4	3
40	2	2	2	1	2
41	3	1	1	4	3
42	2	1	1	2	3
43	2	2	1	1	3
44	2	1	1	4	3
45	1	1	1	1	1
46	2	2	2	2	3
47	2	2	2	4	2
48	2	3	1	4	2
49	1	2	2	4	2
50	1	3	2	4	2

Gynecological variables							
	Presence of Vaginal discharge	Color of discharge	Amount of discharge	Odor of discharge	Presence of dyspareunia	Post coital bleeding	Presence of pruritus vulvae
Sl.No	2	3	4	5	6	7	8
1	2	2	1	1	2	2	2
2	1	2	1	2	2	2	2
3	1	2	1	1	2	2	2
4	1	1	2	2	1	2	1
5	1	2	1	2	2	2	2
6	1	2	2	1	2	2	2
7	1	3	1	2	1	2	1
8	1	2	1	1	2	2	2
9	1	1	1	1	2	2	2
10	1	2	3	1	2	2	1
11	1	1	2	2	2	2	2
12	1	3	2	2	2	2	2
13	1	2	2	1	2	2	2
14	1	2	1	1	2	2	2
15	1	1	2	1	2	2	2
16	1	1	3	2	2	2	1
17	1	2	1	1	2	2	2
18	1	2	2	2	1	2	1
19	1	3	3	2	2	2	2
20	1	2	3	1	2	2	2
21	1	2	2	1	2	2	2
22	1	2	1	1	2	2	2
23	1	2	2	2	1	2	2
24	1	3	2	2	2	2	2
25	1	2	1	1	2	2	2
26	1	2	2	1	2	2	2
27	1	3	3	2	1	1	2
28	1	2	2	2	2	2	2
29	1	2	2	2	2	2	2
30	1	2	2	2	2	2	2
31	1	2	2	1	2	2	2
32	1	2	2	1	2	1	1
33	1	1	1	1	1	2	1
34	1	2	1	1	1	2	2
35	1	2	3	2	2	1	2
36	1	3	2	2	2	2	1
37	1	1	1	1	2	2	1
38	1	2	3	2	1	1	1
39	1	3	2	2	1	2	1
40	1	1	3	1	1	2	1
41	1	2	3	2	2	2	2
42	1	1	2	2	1	2	2
43	1	2	1	1	2	2	2
44	1	2	2	1	1	2	2
45	1	2	1	1	2	2	1
46	1	2	1	1	1	2	1
47	1	1	1	1	2	1	1
48	1	3	3	2	1	1	1
49	1	2	1	1	2	2	2
50	1	2	1	1	1	2	2

Demographic variables										
	Age in years	Educational level	Occupation of women	Occupation of Husband	Residence	Age at Marriage in years	Duration of Marriage	Husband'ssocial habits	Monthly income of family in rupees	Previous knowledge of VIA/VILI
Sl.No	1	2	3	4	5	6	7	8	9	10
51	2	2	2	2	2	3	2	4	1	2
52	1	2	2	1	2	2	2	2	1	1
53	2	2	1	1	2	2	3	1	1	1
54	3	1	2	1	2	2	3	1	1	1
55	3	1	2	1	2	1	3	2	1	2
56	4	1	1	1	2	1	3	4	1	2
57	4	1	2	1	2	1	3	2	1	2
58	4	1	1	1	2	1	3	2	1	2
59	4	1	1	1	2	1	3	2	1	2
60	3	1	2	1	2	1	3	4	1	2
61	3	1	1	1	2	1	3	2	1	2
62	4	1	1	1	2	2	3	2	1	2
63	4	1	2	1	2	2	3	2	1	2
64	1	2	1	1	2	1	3	2	1	1
65	4	1	2	1	2	1	3	1	1	2
66	4	1	1	1	2	1	3	3	1	2
67	1	2	1	2	2	2	2	2	1	2
68	2	1	1	1	2	2	3	1	1	2
69	4	1	2	1	2	2	3	2	1	2
70	1	1	1	1	2	2	2	1	1	2
71	2	2	1	1	2	2	3	2	1	2
72	4	1	1	1	2	2	3	2	1	2
73	4	1	1	1	2	1	3	1	1	2
74	2	2	1	1	2	2	3	2	1	1
75	3	1	2	1	2	2	3	2	1	2
76	4	1	2	1	2	2	3	2	1	2
77	2	2	1	1	2	2	3	2	1	2
78	2	1	1	1	2	1	3	3	1	2
79	3	1	1	1	2	2	3	2	1	2
80	2	1	2	1	2	1	3	2	1	2
81	4	1	2	1	2	1	3	3	1	2
82	4	1	1	1	2	2	3	2	1	2
83	4	1	1	1	2	1	3	1	1	2
84	4	1	2	1	2	1	3	2	1	2
85	2	1	2	1	2	1	3	2	1	2
86	1	2	2	1	2	2	2	2	1	1
87	2	1	1	1	2	3	2	3	1	2
88	2	1	1	1	2	2	3	1	1	2
89	3	1	2	1	2	1	3	2	1	2
90	4	1	1	1	2	1	3	3	1	2
91	3	1	2	1	2	1	3	2	1	2
92	4	1	2	1	2	1	3	2	1	2
93	3	1	1	1	2	1	3	2	1	2
94	3	1	1	1	2	2	3	3	1	2
95	2	2	2	1	2	3	2	1	1	2
96	3	1	1	1	2	1	3	2	1	2
97	2	2	1	1	2	1	3	2	1	2
98	4	1	1	1	2	1	3	2	1	2
99	1	2	2	1	2	2	2	4	1	1
100	2	1	1	1	2	1	3	2	1	2

Menstrual variables							
	Age at menarche in years	Pattern of menstrual cycle	Duration of menstrual flow	Period of menstrual cycle	Presence of Menorrhagia	Presence of Dysmenorrhea	Presence of metrorrhagia
Sl.No	1	2	3	4	5	6	7
51	2	1	2	2	2	2	2
52	2	1	2	2	2	2	2
53	2	1	2	2	2	2	2
54	2	1	2	2	2	1	2
55	1	2	3	3	2	1	2
56	2	1	1	2	2	2	2
57	2	1	2	2	2	1	2
58	3	1	2	2	2	1	2
59	1	1	1	2	1	1	2
60	2	1	2	2	2	2	2
61	2	1	2	2	2	2	2
62	1	1	1	2	2	2	2
63	2	1	2	2	1	2	2
64	1	2	2	2	1	2	2
65	3	1	1	2	2	2	2
66	2	2	3	2	1	2	2
67	2	1	2	2	2	2	2
68	2	1	2	2	2	2	2
69	2	1	2	2	2	2	2
70	3	2	3	3	2	1	2
71	1	1	2	2	2	2	1
72	2	1	1	2	2	1	2
73	1	2	1	2	2	2	2
74	1	2	3	3	1	1	1
75	2	2	3	3	1	1	2
76	2	1	1	1	1	2	1
77	2	1	2	2	2	2	2
78	2	2	3	3	2	2	2
79	2	1	2	2	2	1	2
80	1	1	1	2	2	2	2
81	2	1	2	2	2	1	2
82	2	1	2	2	1	2	2
83	2	1	1	2	2	2	2
84	2	1	2	2	2	2	2
85	2	2	3	3	1	1	2
86	2	1	2	2	2	1	2
87	3	2	3	3	1	1	2
88	1	2	2	3	1	1	1
89	1	1	2	2	2	1	2
90	1	1	2	2	2	1	2
91	1	2	3	3	1	1	1
92	2	2	2	1	1	1	2
93	1	1	1	1	2	1	1
94	2	1	2	2	1	2	2
95	2	1	2	2	2	1	2
96	1	1	2	2	1	1	2
97	1	2	3	3	1	1	1
98	1	1	2	2	2	1	2
99	2	1	2	2	1	1	2
100	2	1	2	2	2	1	2

Obstetric variables					
	Parity	Mode of delivery	Place of delivery	Number of Abortion	Type of Contraception
Sl.No	1	2	3	4	7
51	1	1	2	4	3
52	1	4	2	1	2
53	1	2	2	4	2
54	2	1	2	4	3
55	2	1	1	1	3
56	3	1	1	4	3
57	2	1	1	4	1
58	1	1	1	4	1
59	2	1	1	2	3
60	1	1	2	4	1
61	1	1	1	2	3
62	2	1	1	3	3
63	2	1	2	4	2
64	1	2	2	4	2
65	1	1	1	4	2
66	2	1	1	1	2
67	1	3	2	1	2
68	1	1	2	1	1
69	2	1	1	4	1
70	1	1	1	4	2
71	1	1	2	2	2
72	2	1	1	4	1
73	2	1	1	4	1
74	1	2	2	4	2
75	2	1	1	4	1
76	3	1	1	1	1
77	2	1	2	2	2
78	1	2	2	1	2
79	2	1	1	4	1
80	1	1	2	2	2
81	3	1	1	4	3
82	2	2	2	4	3
83	1	1	2	3	2
84	2	1	1	1	3
85	2	1	1	1	3
86	1	1	2	4	2
87	1	1	2	4	2
88	1	1	1	2	3
89	2	1	1	4	3
90	2	1	1	4	1
91	2	1	1	2	3
92	2	1	1	4	3
93	2	1	2	4	3
94	1	1	2	4	2
95	1	1	2	1	2
96	2	1	1	2	3
97	3	1	1	1	3
98	2	1	1	4	3
99	1	2	2	4	2
100	2	2	1	4	3

Gynecological variables							
	Presence of Vaginal discharge	Color of discharge	Amount of discharge	Odor of discharge	Presence of dyspareunia	Post coital bleeding	Presence of pruritus vulvae
Sl.No	2	3	4	5	6	7	8
51	1	2	1	1	2	2	2
52	1	3	3	2	1	1	1
53	1	3	2	2	2	1	2
54	1	2	1	1	2	2	1
55	1	3	2	2	2	2	1
56	1	1	2	1	2	2	2
57	1	1	1	1	2	2	1
58	1	3	3	2	1	2	1
59	1	3	2	2	1	1	1
60	1	2	1	1	2	2	2
61	1	2	1	1	2	2	2
62	1	3	3	2	1	2	1
63	1	1	2	2	1	2	2
64	1	3	2	1	2	2	2
65	1	2	1	1	2	2	2
66	1	1	1	1	2	2	2
67	1	2	1	2	2	2	1
68	1	2	1	2	2	2	1
69	1	2	1	1	2	2	2
70	1	3	3	2	1	2	1
71	1	2	1	1	2	2	2
72	1	3	1	1	2	2	2
73	1	2	1	1	2	2	2
74	1	2	2	1	2	2	2
75	1	3	2	2	2	2	2
76	1	2	3	2	2	2	1
77	1	2	1	1	2	2	2
78	1	2	3	2	2	2	1
79	1	3	3	2	1	2	1
80	1	2	2	1	2	2	2
81	1	2	3	2	1	2	1
82	1	2	3	1	2	2	2
83	1	3	2	2	1	2	1
84	1	2	3	1	1	2	1
85	1	3	3	2	1	2	1
86	1	2	3	1	1	2	2
87	1	2	2	2	1	2	2
88	1	3	3	2	1	2	1
89	1	2	3	2	1	2	2
90	1	3	3	2	2	2	1
91	1	3	3	2	1	2	1
92	1	3	2	1	2	2	2
93	1	2	1	1	2	2	2
94	1	3	3	2	1	2	2
95	1	1	1	1	2	2	1
96	1	3	3	2	1	2	1
97	1	2	1	1	1	2	2
98	1	1	1	2	2	1	2
99	1	3	3	2	1	2	2
100	1	2	1	1	1	2	2